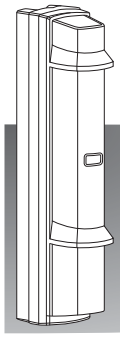
OPTEX

INSTALLATION INSTRUCTIONS

CE



BATTERY OPERATED
PHOTOELECTRIC DETECTOR

Smart Line™ series

SL-350 QFR	Detection range 100m/350ft. 4 selectable beam frequencies
SL-350 QNR	Detection range 100m/350ft.

FEATURES

- Battery-operated detector
  - Battery life: Transmitter Approx. 4 years (2 in the transmitter)
    Receiver Approx. 5 years (2 in the receiver)
    (when using LSH20 (3.6V, 13Ah) batteries manufactures by SAFT)
  - Up to 8 batteries (4 in the transmitter, 4 in the receiver)
    (normal operation requires 2 batteries)
  - Battery saving function
  - Intermittent output function
  - Spacious back bck box for numerous wireless transmitter
- Quad high power beams
- Smart design
  - Slim body design
  - Easy-to-see vivit interior color for optical alignment
  - IP65 waterproof structure
- 4 channel beam frequency selector (SL-350QFR only)
- Viewfinder with 2X magnification
- Beam interruption adjustment function
- D.Q. circuit (environmental disqualification)
- Tamper function
- LED indicator for an easy alignment
- Various options (refer to page 12)
  (ABC-4, BC-4, BCU-4, PSC-4, SBU-4, BAU-4, EC-4)

CONTENTS

1 INTRODUCTION

1-1 BEFORE YOUR OPERATION

- Read this instruction manual carefully prior to installation.
- After reading, store this manual carefully in an easily accessible place for reference.
- This manual uses the following warning indications for correct use of the product, harm to you or other people and damage to your assets, which are described below. Be sure to understand the description before reading the rest of this manual.

⚠Warning	Failure to follow the instructions provided with this indication and improper handling may cause death or serious injury.
⚠Caution	Failure to follow the instructions provided with this indication and improper handling may cause injury and/or property damage.

This symbol indicates prohibition. The specific prohibited action is provided in and/or around the figure.

This symbol requires an action or gives an instruction.

⚠Warning

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.

Never attempt to disassemble or repair the product. It may cause fire or damage to the devices.

Do not use batteries that have different levels of power remaining (i.e., new and used batteries).
Not observing the above may result in an explosion, leakage of electrolyte, emission of toxic gases or other outcomes that may be harmful to people and property.

[Handling of Batteries]
Do not recharge, short circuit, crush, disassemble, exceed heat above 100°C (212°F), incinerate, or expose contents to water. Do not solder directly to the cell.
Not observing the above may result in fire, explosion or severe burn hazard.

⚠Caution

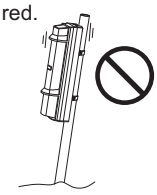
Do not solder directly to the cell.
Do not pour water over the product with a bucket, hose, etc. The water may enter, which may cause damage to the devices.

Clean and check the product periodically for safe use. If any problem is found, do not attempt to use the product as it is and have the product repaired by a professional engineer or electrician.

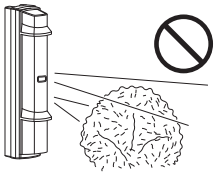
1-2 PRECAUTIONS

Do not install the unit on an unstable surface.

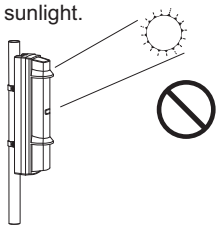
Do not install the pole in a location where sufficient stability can not be ensured.



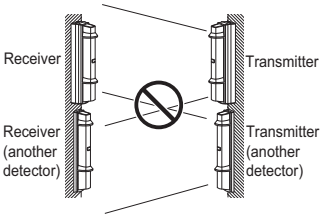
Do not install the unit in trees, leaves, or other objects that may swing in the wind and block the beam.



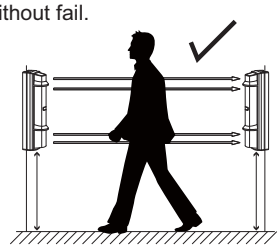
Do not install the receiver in a location where it is exposed to direct sunlight.



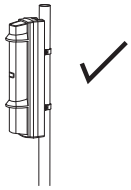
Do not allow the infrared beam from a different model to reach the receiver.



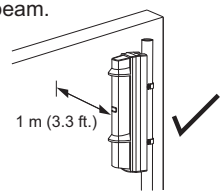
Install the unit at a height where an object can be detected without fail.



The pole size should be ϕ34 - 48 mm (ϕ1.34" - 1.89").

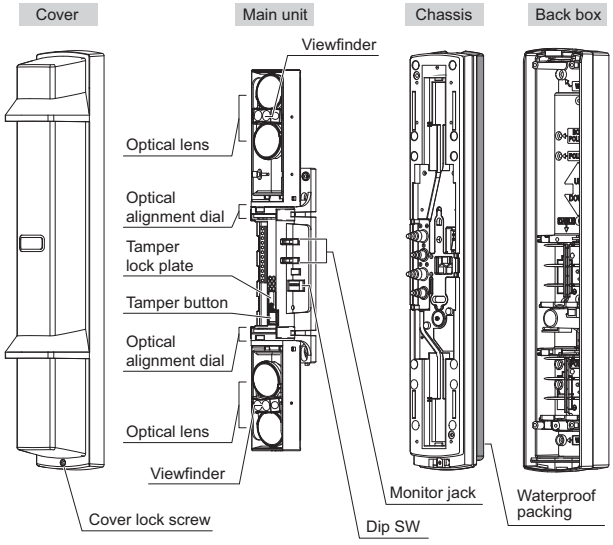


Install the unit at least 1 m (3.3 ft.) away from the wall or fence that may be running parallel to the beam.



This symbol indicates prohibition.
This symbol indicates recommendation.

1-3 PARTS IDENTIFICATION

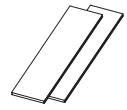


⚠Caution

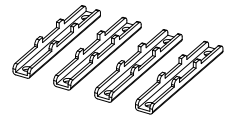
- Be sure to install the chassis, waterproof packing and back box altogether. Not doing so may compromise IP rate of this product.

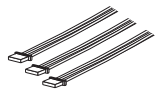
Accessories>>

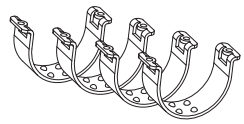

4×20 self tapping for wall mounting (with rubber washer): 12

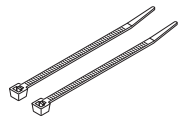

Velcro tape: 2 sets

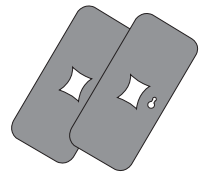

M4×30 screws for pole mounting (with rubber washer): 8


Pole brackets (with double-sided tape): 4


Cables: 3


U-brackets: 4


Banding bands: 2


Beam blocking plate: 2 (attached on the back of the cover)

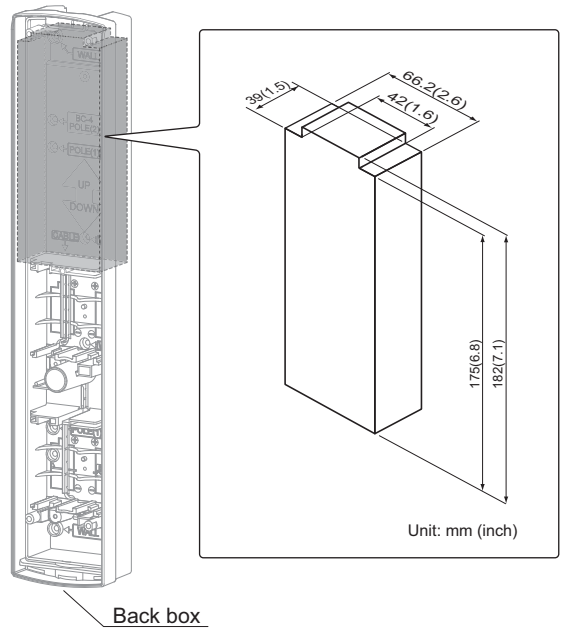
2 PREPARATIONS

2-1 ORDERING DETECTOR BATTERIES

Recommended batteries: Two LSH20 batteries manufactured by SAFT (can be added up to four batteries.)
For information about batteries, visit the following website and contact your local SAFT sales representative.
http://www.saftbatteries.com/Contacts/tabid/72/FP/9/FROM/PRODUIT/Default.aspx

2-2 CHECKING THE WIRELESS TRANSMITTER SIZE

Use two wireless transmitters for each receivers and transmitters of the detector. When wireless transmitters with two or more inputs are available, use one in each transmitter and receiver of tne detector. The following figure shows the dimensions of the enclosure that will house the wireless transmitter.



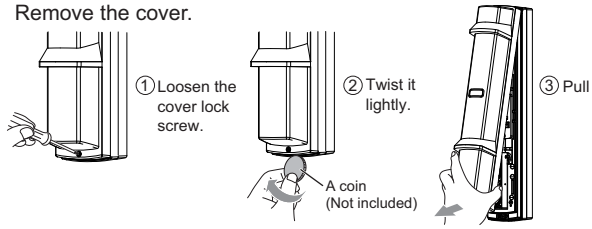
Note>>

- Be sure to monitor the alarm and low battery outputs.
- To monitor the tamper output, include a wireless transmitter supporting three or more inputs into the system.

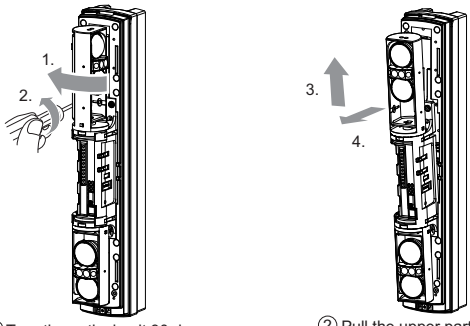
3 INSTALLATION

3-1 SEPARATING

1 Remove the cover.



2 Remove the main unit from the chassis.



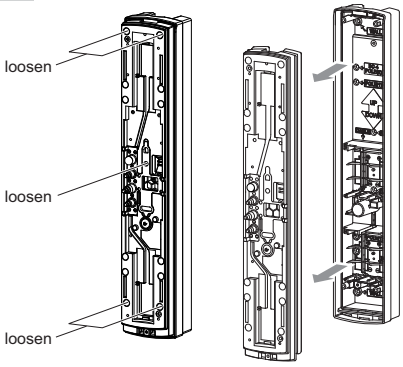
① Turn the optical unit 90 degrees and loosen the screws (both sides).

② Pull the upper part of main unit, and raise it to remove.

⚠ Caution

- Do not place the main unit where it is exposed to direct sunlight. Doing so may cause damage to the product.

3 Remove the chassis from the back box.

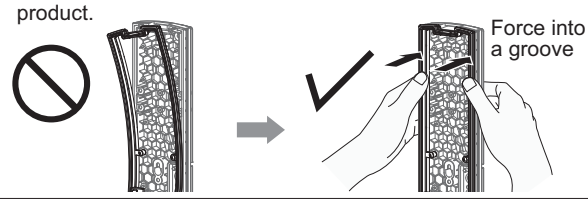


Note>>

The screws to secure the back box cannot be removed from the chassis.

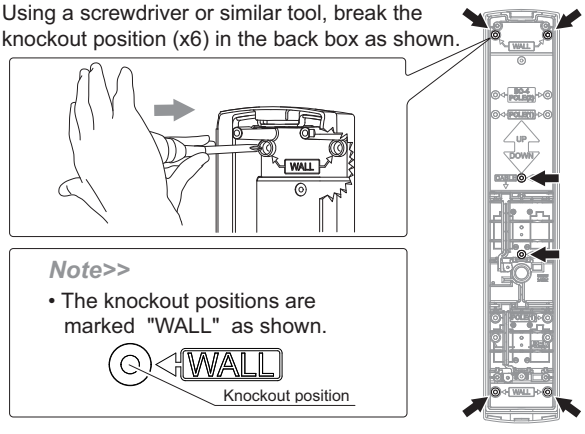
⚠ Caution

- When the waterproof packing is detached, be sure to attach it on the back of the chassis before mounting. Not doing so may compromise IP rate of this product.



3-2 WALL MOUNTING

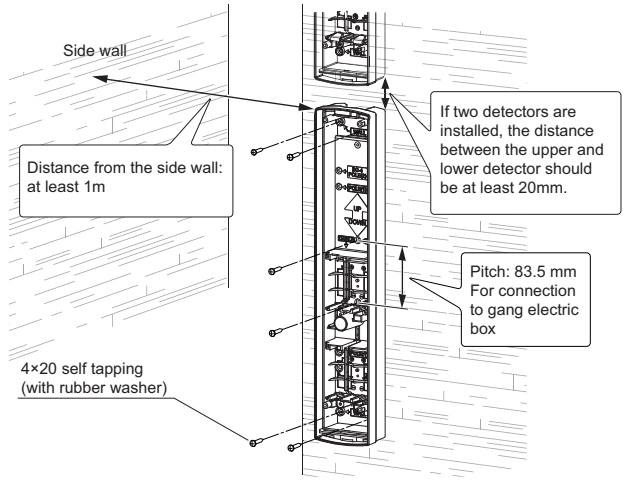
1 Using a screwdriver or similar tool, break the knockout position (x6) in the back box as shown.



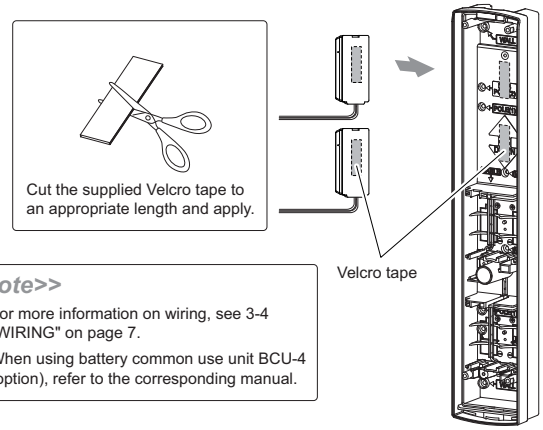
Note>>

- The knockout positions are marked "WALL" as shown.

2 Mount the back box to the wall.



3 Using Velcro tape, fix the wireless transmitters in the back box.



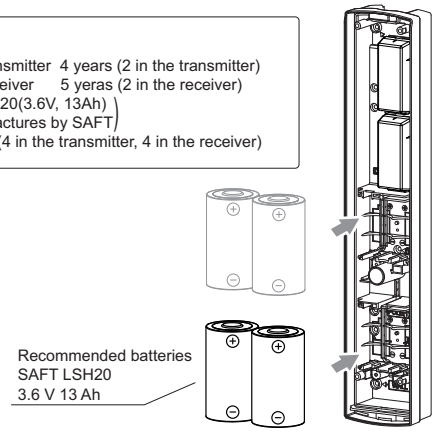
Note>>

- For more information on wiring, see 3-4 "WIRING" on page 7.
- When using battery common use unit BCU-4 (option), refer to the corresponding manual.

4 Insert two or four batteries into the back box.

Note>>

Battery life: Transmitter 4 years (2 in the transmitter)
Receiver 5 yeras (2 in the receiver)
(when using LSH20(3.6V, 13Ah) batteries manufactures by SAFT)
Up to 8 batteries (4 in the transmitter, 4 in the receiver)



Note>>

- Use of batteries other than recommended may shorten the battery life. In that case, use four batteries.

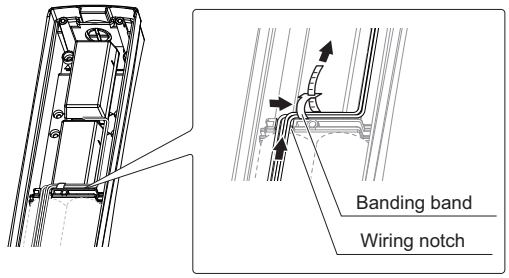
⚠ Warning

- Do not mix batteries that have different levels of power remaining (i.e., new and used batteries or batteries of different manufacturers).
  Not observing the above may result in an explosion, leakage of electrolyte, emission of toxic gases or other outcomes that may be harmful to people and property.

⚠ Caution

- Remove **all** batteries prior to replacing with new ones. If this is not followed, the low battery indicator LED will not reset and continue to blink.

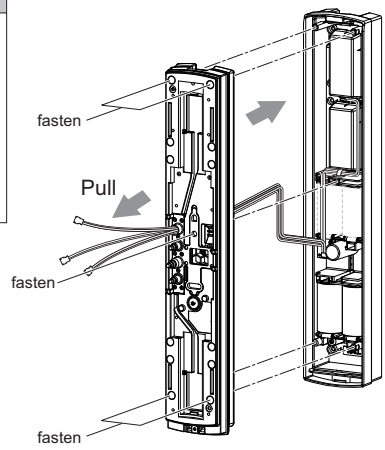
5 Run the cables so that they are not pinched between the chassis and back box.



6 Pass the cables through the wiring hole of the chassis and mount the chassis to the back box.

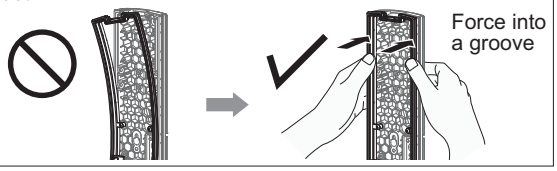
⚠Caution

- Tighten the screws completely by torque of 1.0 - 1.5 N·m. Not doing so may cause malfunction of wall tamper.



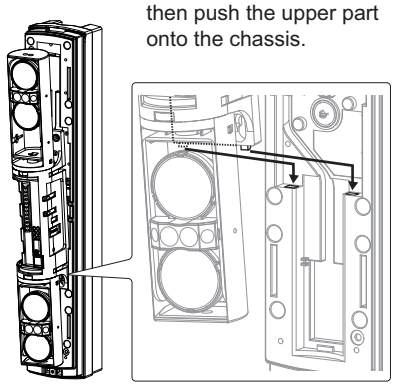
⚠Caution

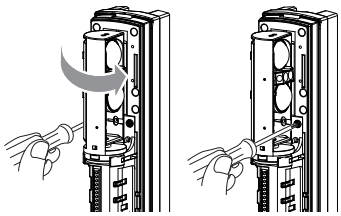
- Avoid cables from being caught between chassis.
- When the waterproof packing is detached, be sure to attach it on the back of the chassis before mounting. Not doing so may compromise IP rate of this product.



7 Fix the main unit on the chassis.

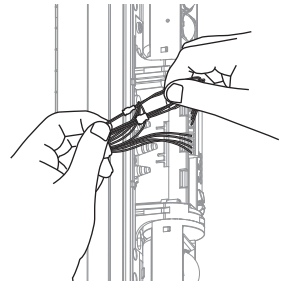
① Insert the lower part, and then push the upper part onto the chassis.





② Turn the optical unit 90 degrees and tighten the screws (both sides).

8 Connect the cables and complete setting and alignment. (refer to page 8, 9)

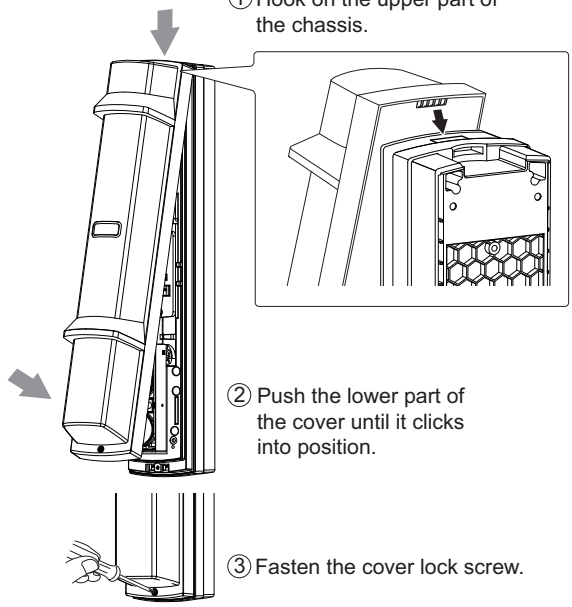


Note>>

- For more information on wiring, see “WIRING” on page 7.

9 Close the cover.

① Hook on the upper part of the chassis.

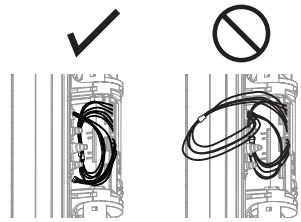


② Push the lower part of the cover until it clicks into position.

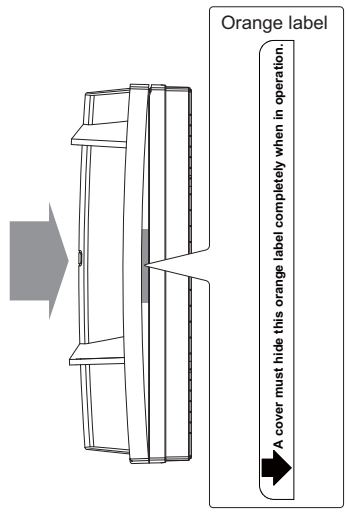
③ Fasten the cover lock screw.

Note>>

- Put the cables in order not to be caught between the main unit and cover.



- Push the middle part of the cover and hide this orange label completely when in operation.



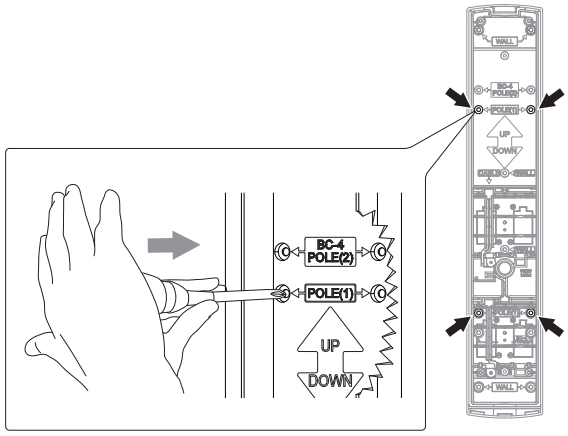
⚠Caution

- Do not contact with the optical unit when mounting the cover. Otherwise malfunction may occur due to the shift of the optical axis, resulting in the need of readjustment.

3-3 POLE MOUNTING

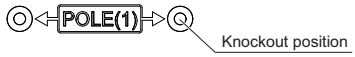
-Installing one detector

1 Using a screwdriver or similar tool, break the knockout position (x4) in the back box as shown.



Note>>

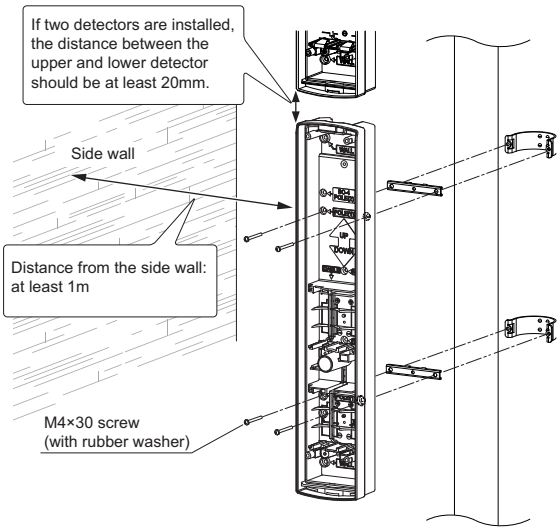
- When mounting the single set of detectors to the pole, use a pair of the inside knockouts.
  The knockout positions are marked "POLE(1)" as shown.



⚠ Caution

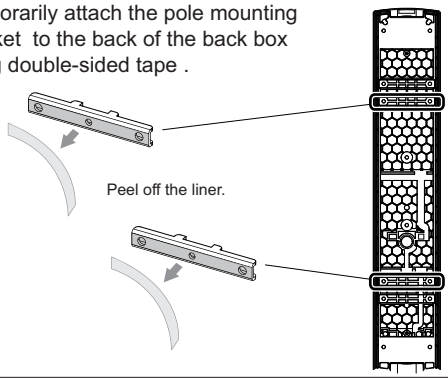
- If you accidentally open an unnecessary knockout, be sure to fill the knockout. Not doing so may result in waterproof failure and malfunction of the product.

2 Fix the back box on the pole.



Note>>

- Temporarily attach the pole mounting bracket to the back of the back box using double-sided tape .



Note>>

- Double-sided tapes attached to the pole mounting brackets make it easier to mount the unit with the combinations of the brackets.

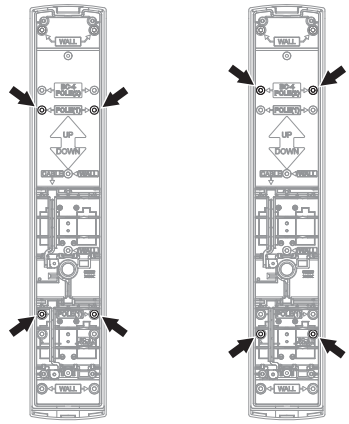
3 Perform the wall mounting procedure of 3 to 9 on page 3 to 4.

-Installing two detectors in opposing directions

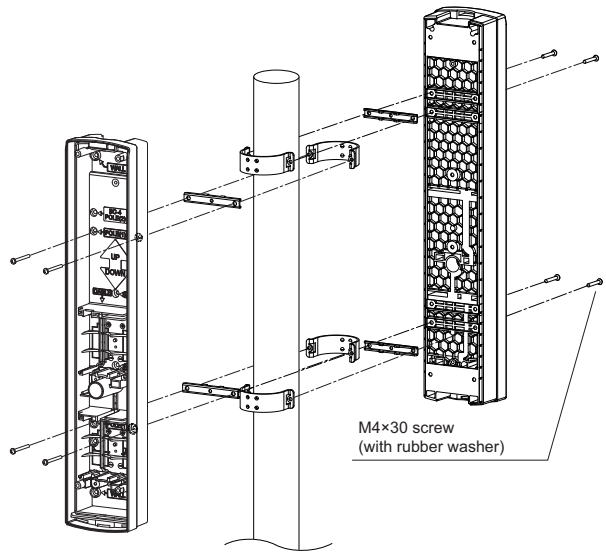
1 Using a screwdriver or similar tool, break the knockout position (x4) in the back box as shown.

Note>>

- Choose a different pair of knockouts.
  Pairs of the knockout positions are marked "POLE(1)" and "POLE(2)".



2 Fix the back box on the pole.



Note>>

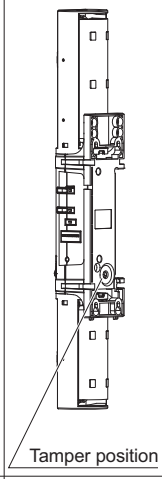
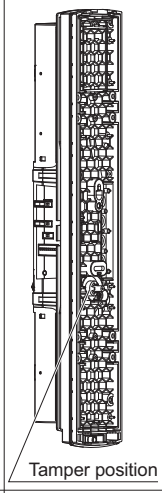
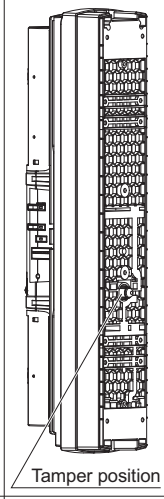
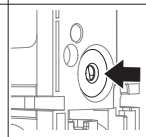
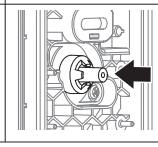
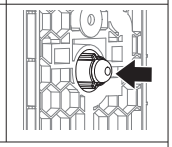
- Double-sided tapes attached to the pole mounting brackets make it easier to mount the unit with the combinations of the brackets. Refer to procedure 2 of “Installing one detector”.

3 Perform the wall mounting procedure of 3 to 9 on page 3 to 4.

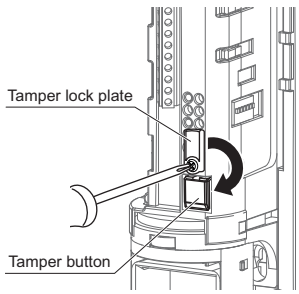
3-4 MOUNTING IN THE BEAM TOWER

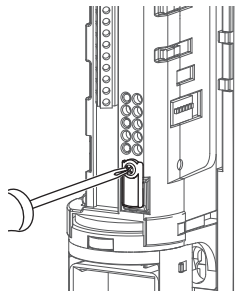
- Mounting the detector

1 Select a mounting pattern according to the tower to be used.

	Main unit	Main unit + Chassis	Main unit + Chassis + Back box
Mounting pattern	 Tamper position	 Tamper position	 Tamper position
Tamper position			
⚠Caution	When using the tamper output, install the detector with the tamper shown above being pressed. Not doing so may cause malfunction of wall tamper.		

2 When installing the detector without the cover, lock the tamper button with the tamper lock plate on both the transmitter and receiver.





① Loosen the screw and rotate the tamper lock plate.

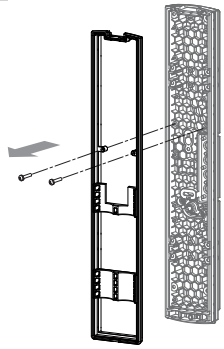
② Fasten the screw to lock the tamper button.

⚠Caution

- The switch selection is not recognized when locking the tamper button.
  Release the tamper button before selecting a function using the switch.
- After completing the settings, be sure to lock the tamper button to check that all LEDs are OFF.
  If the tamper button is not locked, the LEDs are kept ON, which consumes more battery power.
- The monitor jack output is disabled when the tamper button is locked.
- When locking the tamper button, the beam alignment test point will be disabled. Complete the alignment procedure before locking the tamper button.

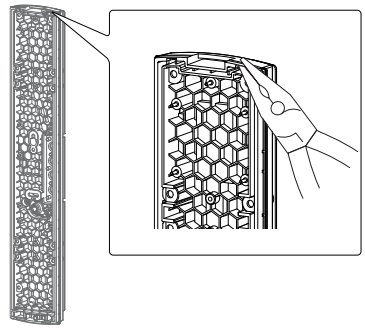
- Mounting the detector separate from the back box

1 Be sure to remove the waterproof packing.



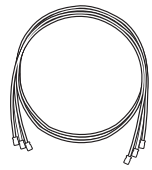
Note>>
- Remove two screws fixing the waterproof packing.

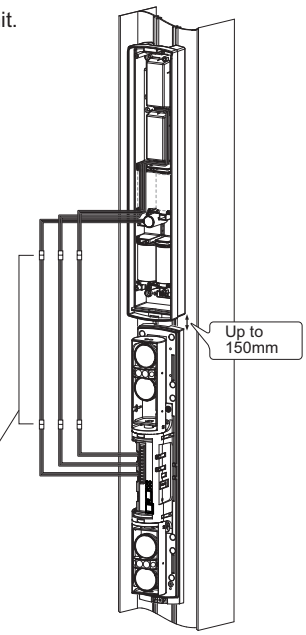
2 Open the wiring guide on the back of the chassis using pliers as shown.



3 Fix the back box and main unit.

Note>>
- When mounting the back box and the main unit, use extension cable with connector EC-4 (option).

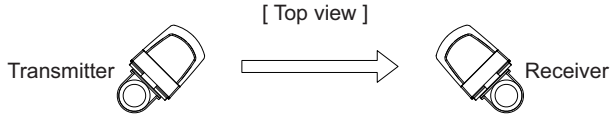




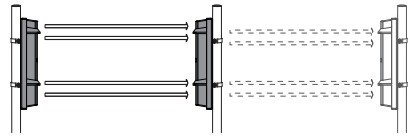
3-5 MOUNTING EXAMPLE AT PARTICULAR CASE

1 Avoid installing the transmitter and receiver facing each other through the corner of the cover.

[Top view]



2 In doing this installation, the maximum detection range shall be half of the original detection range. (This is to compensate the attenuation of beam by the corner of the cover.)

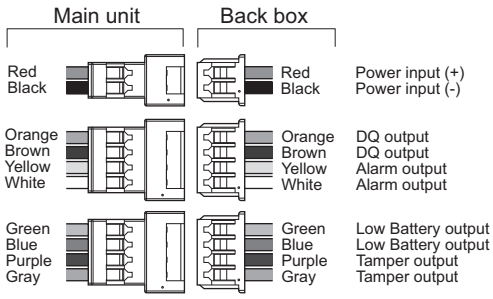


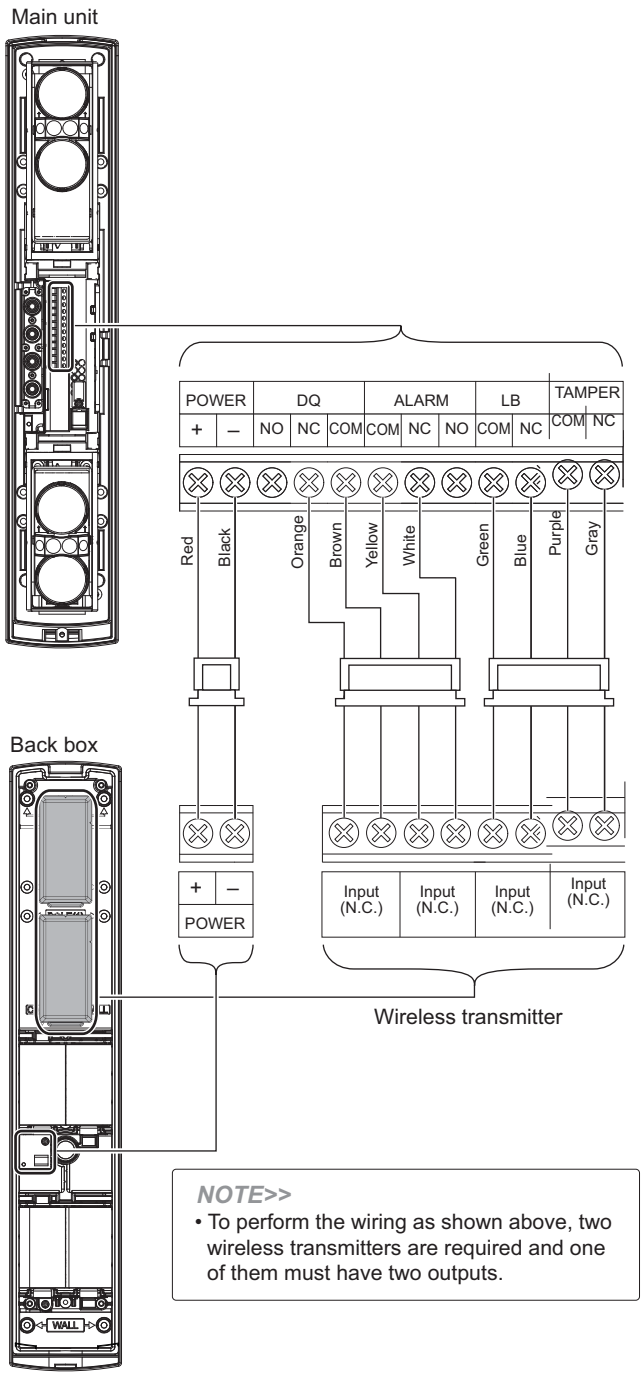
ex) SL-200QN 60m/200ft.→30m/100ft.

3-6 WIRING

This product is provided with wiring based on the assumption that N.C. wireless transmitters are used.
Connect the cables from the back box (Yellow/Yellow-white, Green/Green-white, and Black/Black-white) to the respective terminals on the wireless transmitters.

Receiver

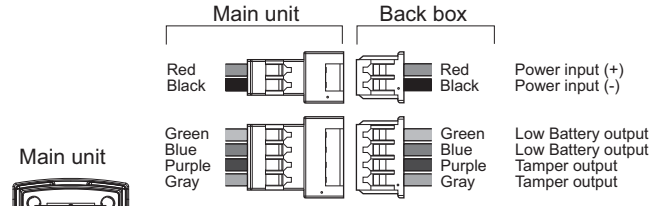


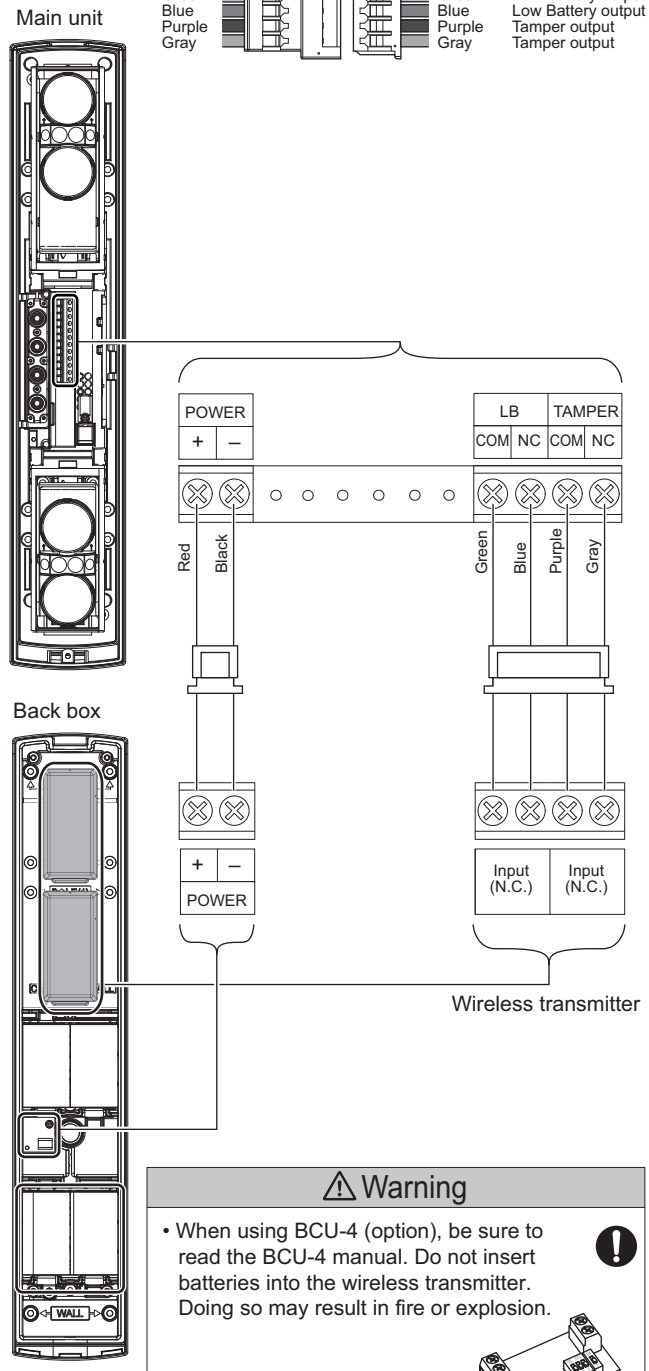


NOTE>>

- To perform the wiring as shown above, two wireless transmitters are required and one of them must have two outputs.

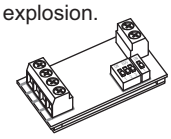
Transmitter





⚠Warning

- When using BCU-4 (option), be sure to read the BCU-4 manual. Do not insert batteries into the wireless transmitter. Doing so may result in fire or explosion.



NOTE>>

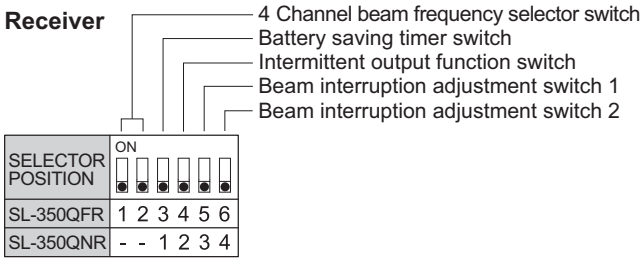
- To monitor all signal outputs independently, include a wireless transmitters with four inputs or use two wireless transmitters with two inputs each.
- If there is only an N.O. output on a wireless transmitter, the low battery output and tamper output cannot be used. Switch D.Q. output and alarm output from N.C. to N.O.
- When you want to use the D.Q. output, share the terminal with the alarm, low battery, or tamper output. For information about wiring, see the wiring diagram in “Setting the D.Q. output” in “4-3” on page 10.
- The power supply can be shared between the back box and wireless transmitter by using battery common use unit Battery common use unit BCU-4 (option).

4 SETTING

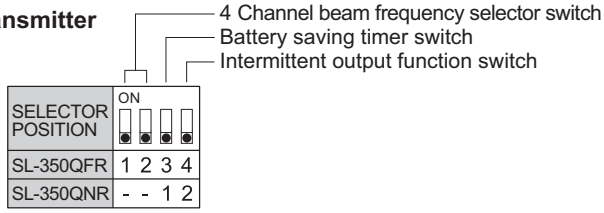
4-1 FUNCTION

1 DIP SWITCH

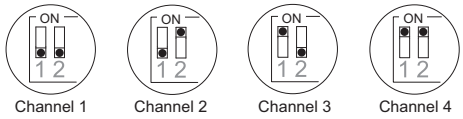
Receiver



Transmitter



2 4 CHANNEL BEAM FREQUENCY SELECTOR (SL-350QFR ONLY)

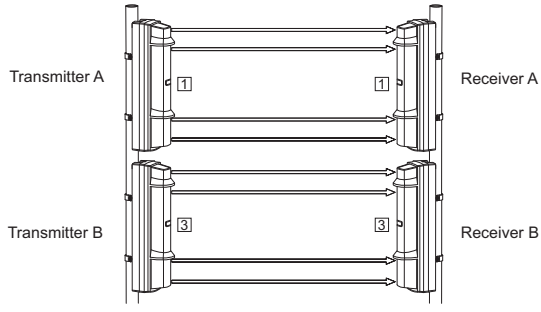


The 4 channel beam frequency selector can be used to avoid unwanted crosstalk that can occur when using multiple photoelectric detector for long distance or beam stacking applications.

- To select between 4 separate beam frequencies, use the switch provided.
- Make sure the receiver and transmitter that are facing each other are set to the same channel.
- More than double stacked application is not possible.

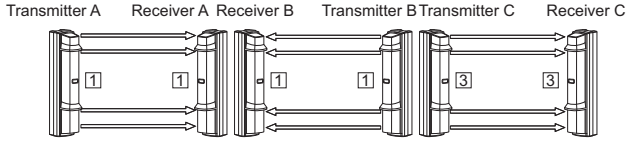
> ***Note>>***
> • Always switch the frequencies TWO channels apart when stacking units on top of one another. (See following example.) The upper unit is set on channel 1 while the lower is on channel 3, channels 2 and 4 could have also been used.

a) Double stacked protection



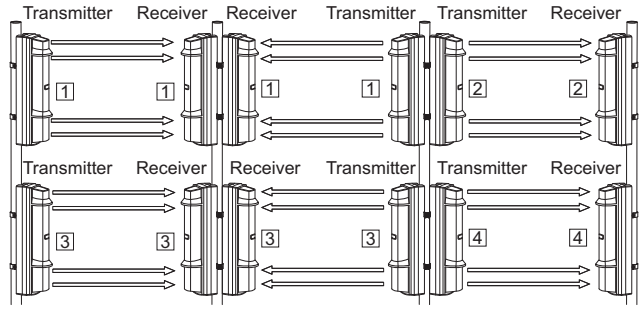
Since Receiver B may receive the infrared beam from Transmitter A, select the frequencies as shown in the figure above.
(In the figure, each number in the square indicate a channel numbers.)

b) Long distance protection



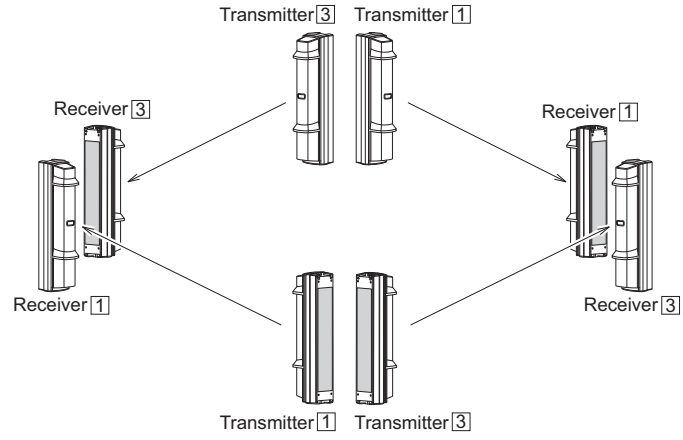
Since Receiver C may receive the infrared beam from Transmitter A, select their frequencies as shown in the figure above.

c) Double stacked long distance protection

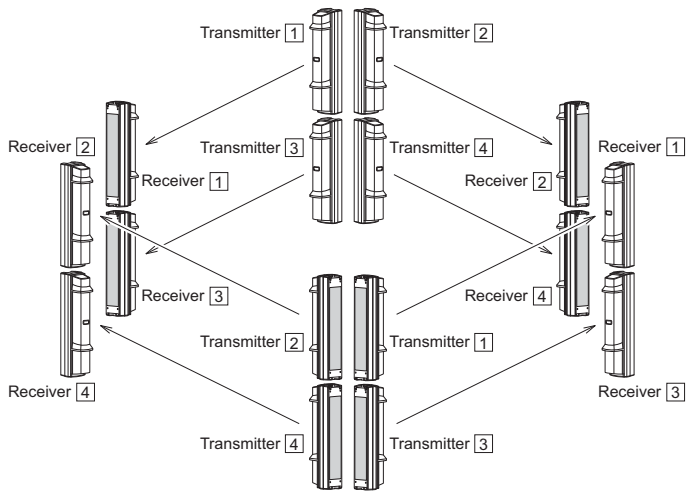


> ***Note>>***
> • More than double stacked application is not possible.

d) Perimeter protection



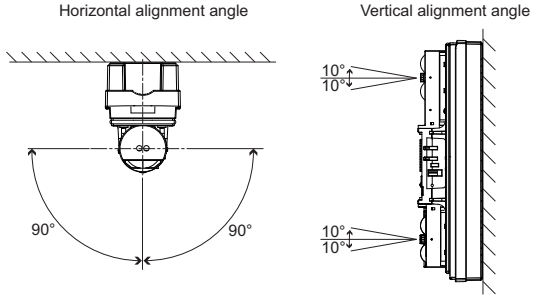
e) Perimeter protection in a two-stack configuration



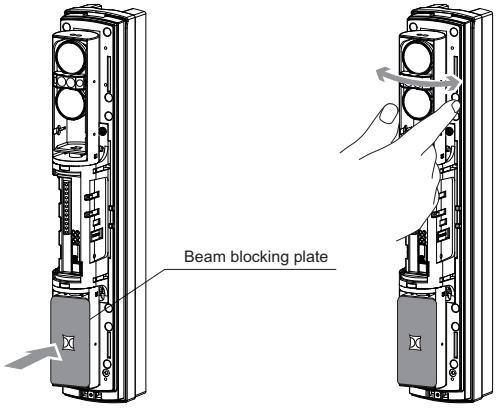
> **⚠Warning**
> • Do not attempt to install this product with any other photoelectric detector. It may cause the detector to fail or not respond to movements.
> If the receiver of this product receives the beam from the wired photoelectric detector, it may cause false alarms.
> • In case that you install the battery operated photoelectric detector with Optex hard-wired photoelectric detector at the same site, ensure that the hard-wired transmitter cannot affect any other battery operated receivers for avoiding cross talk between photoelectric detector.

4-2 OPTICAL ALIGNMENT

Optical alignment is an important procedure to increase reliability. Be sure to take alignment step 1 through 5 described below to attain the maximum level of the output through the monitor jack.

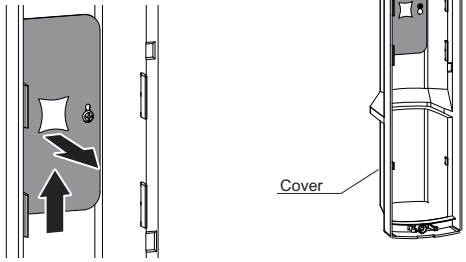


1 Perform rough alignment of the horizontal angle.

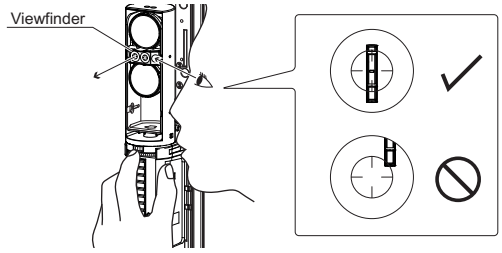


Note>>

- Mount a beam blocking plate to the lower unit and then start optical alignment from the upper unit.
- Beam blocking plate is attached on the back of the cover.
- Return the beam blocking plate to the cover after use.

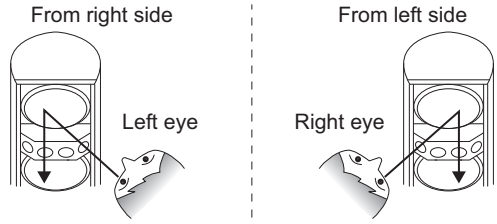


2 Look into the viewfinder and perform fine alignment of the horizontal and vertical angles using the alignment dial.



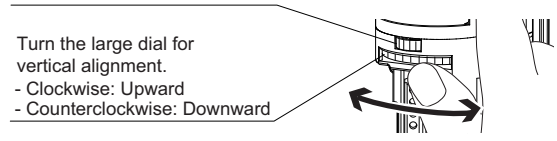
Note>>

< How to look into the viewfinder >



Note>>

Check the diagram below and perform fine alignment for both horizontal alignment and vertical alignment.



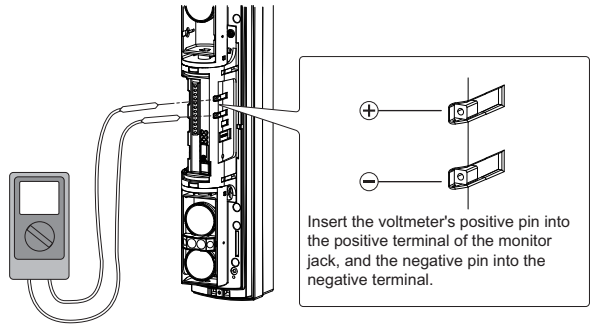
⚠Warning

- Do not look at strong light sources such as sunlight through the viewfinder.

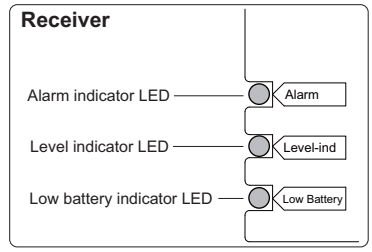
⚠Caution

- Do not touch the lens during optical adjustment.

3 After the alignment using the viewfinder, make adjustment with the voltmeter for more accurate optical alignment.
Set the voltmeter range to 5 to 10 VDC.
After checking the receiving level of optical axis by using the Level indicator LED, make sure to make fine alignment for both transmitter and receiver with voltmeter to achieve a monitor output level of "Excellent".



4 Adjust the horizontal and vertical angles while checking the light receiving status by Alarm indicator LED on the pairing receiver.



	Light interrupted	Light received			
Level indicator LED	ON (Red) ●	Fast blink ◔	Slow blink ◔	OFF ○	
Adjustment level	Realign		Fair	Good	Excellent
Monitor jack output	0 V ▷		1.0 V ▷ 2.4 V ▷ 2.8 V ▷		

⚠Caution

- The Alarm indicator LED is a supporting tool for easy alignment. Be sure to perform fine alignment to ensure the maximum output level through the monitor jack.
- The Level indicator LED should only be used for rough alignment, for fine alignment always use the monitor jack output level.

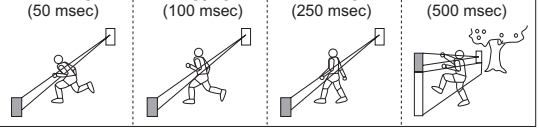
5 Make the settings of 1 to 4 to the lower as well.

4-3 OPTIONAL SETTINGS

1 BEAM INTERRUPTION ADJUSTMENT

Initial setting is at 50 ms for normal work. According to the speed of a supposed target you select one specific setting out of 4 steps. Set the beam interruption adjustment switches of the Receiver according to the speed of the human object to detect.

SELECTOR POSITION	ON			
SL-350QFR	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
SL-350QNR	- - 1 2 3 4	- - 1 2 3 4	- - 1 2 3 4	- - 1 2 3 4
Typical interruption time setting	Running (50 msec)	Jogging (100 msec)	Walking (250 msec)	Slow movement (500 msec)



2 BATTERY SAVING TIMER

Alarm output activation is limited to 2 minutes by a timer. Even if there are continuous alarm events, the alarm output operates only once in the timer period.

	Receiver	Transmitter
ON / OFF		
SL-350QFR	1 2 3 4 5 6	1 2 3 4
SL-350QNR	- - 1 2 3 4	- - 1 2

- Alarm output: 1 output/ 2 minute
- D.Q. output: 1 output/ 2 minute
- Low battery output: 1 output/ 15 minutes

⚠ Caution

- Remove **all** batteries prior to replacing with new ones. If this is not followed, the low battery indicator LED will not reset and continue to blink.

3 INTERMITTENT OUTPUT FUNCTION

When wireless configuration is being used, which is unable to determine whether the alarm output continues, setting the intermittent output function to the “ON” position, turns on the intermittent alarm output. This configures the wireless transmitter to send alarms at a specific time intervals.

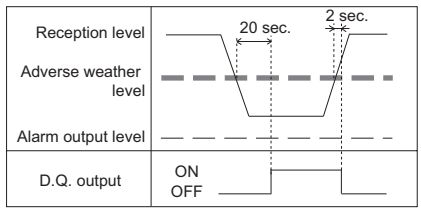
	Receiver	Transmitter
ON / OFF		
SL-350QFR	1 2 3 4 5 6	1 2 3 4
SL-350QNR	- - 1 2 3 4	- - 1 2

- Alarm output: 1 output/ 1 minute
- D.Q. output: 1 output/ 1 minute
- Low battery output: 1 output/ 5 minutes

4 D.Q. OUTPUT (ENVIRONMENTAL DISQUALIFICATION)

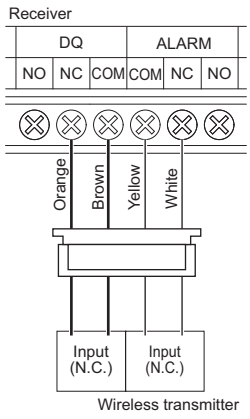
D.Q. will send a trouble signal when the beam strength is below acceptable levels, for more than 20 seconds, due to rain, snow, or heavy fog.

< Operating Time Chart >

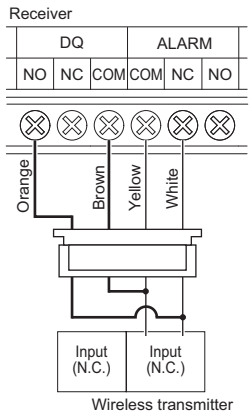


< Wiring example >

D.Q. and ALARM are output separately.



Canceling ALARM output in adverse weather conditions

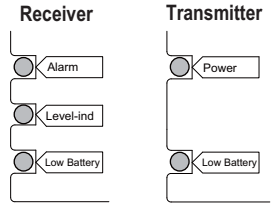


⚠ Caution

- This circuit sets N.O. for a low battery output, whereas N.C. for an alarm. Be sure to use N.O. ready wireless transmitter for this configuration. Turn “OFF” both battery saving timer and intermittent output function switches when applying this wiring example.

5 OPERATION CHECK

5-1 LED INDICATION



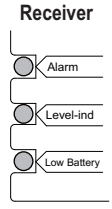
	Detection (beam interruption)	Normal	Low battery power
ALARM (Receiver)	ON	OFF	—
POWER (Transmitter)	ON	ON	—
LOW BATTERY (Receiver&Transmitter)	—	—	Blink

5-2 OPERATION CHECK

After installation is complete, be sure to check the operation.

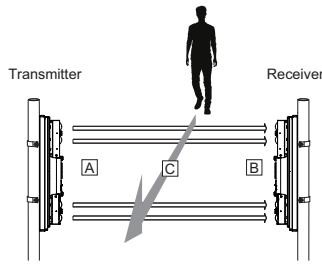
1 See "4-3 2 BATTERY SAVING TIMER" to turn OFF the battery saving mode.

2 Make sure that the alarm indicator is off.
If it is illuminated even when the beams are not blocked, make optical alignment again.



3 Check that the low battery indicator LEDs on both transmitter and receiver are OFF.
If the indicator LED is blinking, the battery power is low. Replace with the new batteries.

4 Conduct a walk test to check that Alarm indicator LED on the receiver turns ON as the walker interrupts the beams.



Be sure to conduct a walk test at the following three points:

A. In front of the transmitter
B. In front of the receiver
C. At the mid point between the transmitter and receiver

The detector is installed properly when Alarm indicator LED turns ON in the tests at all the three points.

⚠ Caution

- For battery power savings, perform the operation check before checking the following items.
  (1) When installing on a wall or pole, make sure the cover is properly attached to main unit.
  (2) When installing in a beam tower, make sure the tamper bushing is properly attached to main unit. (See page 6 “Caution”.)

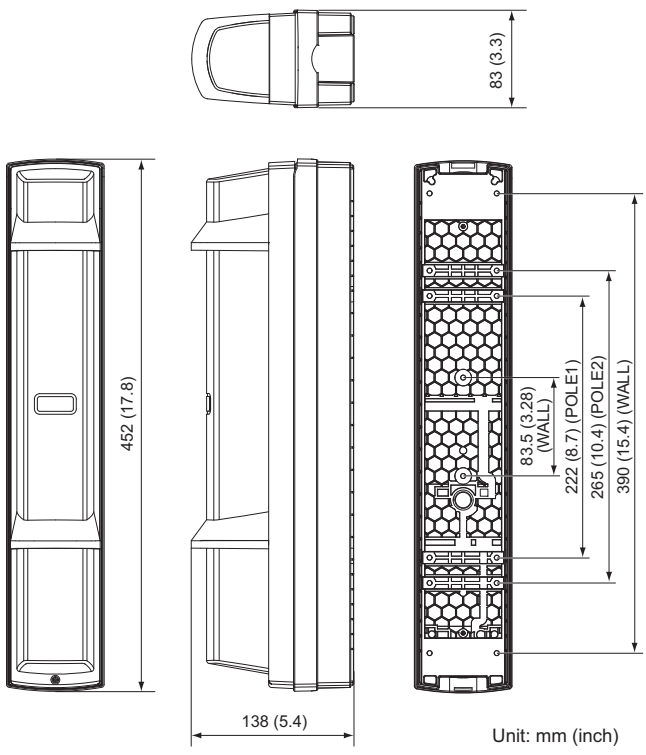
6 TROUBLESHOOTING

6-1 TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
LEDs are not illuminated. (transmitter/receiver)	Reversed battery polarity.	Check the battery polarity.
Low battery indicator blinks even though the battery has been inserted. (transmitter/receiver)	Reversed battery polarity.	Check the battery polarity.
Alarm is not output.	Reflection from the floor or wall.	Align beams away from the floor or wall.
	Beam has not been blocked.	Block all four beams.
Alarm is kept output.	Channels of transmitter and receiver are different.	Set the same channel to both transmitter and receiver.
	Multiple photoelectric detector for long distance or beam stacking applications.	Set channels 1-3 or 2-4 or 1-4.
	Optical alignment was not performed properly.	See “4-2 OPTICAL ALIGNMENT” on Page 9.
Batteries are going flat too quickly.	Tamper button has not performed properly.	Set the cover or tamper lock plate properly.
Frost, snow or heavy rain causes false alarm.	Optical alignment not optimized.	See “4-2 OPTICAL ALIGNMENT” on Page 9 and make realignment.
Improper output	The wiring is incorrect.	Make correct wiring.
Wall tamper does not activate.	Screws between the chassis and the back box are loose.	Tighten screws completely.
	The waterproof packing on back box is misplaced.	Remove chassis from the back box and align the waterproof packing onto the chassis.

7 DIMENSIONS

7-1 DIMENSIONS



Unit: mm (inch)

8 SPECIFICATIONS

8-1 SPECIFICATIONS

Model		SL-350QFR	SL-350QNR
Maximum detection range		100 m/350 ft.	
Maximum arrival distance		1000 m/3500 ft.	
Detection method		Quad infrared beam interruption detection	
Selectable beam frequency		4 channels	
Interruption time		Variable between 50/100/250/500 ms (4 steps)	
Power source		Recommend: 3.6 V, 13.0 Ah LSH20 lithium batteries manufactured by SAFT Operating range: 3.2 V - 4.0 V litium batteries Transmitter: 2 or 4 units, Receiver: 2 or 4 units	
Current draw		745 µA Transmitter: 420 µA + Receiver: 325 µA (at 25°C, 3.6 VDC)	
Battery life * **		Transmitter: Approx. 4 years Receiver: Approx. 5 years	
Output	Alarm output	Form C-Solid State Switch: 3.6 VDC, 0.01 A	
	Alarm period	2 sec (±1) (Nominal)	
	D.Q output	Form C-Solid State Switch: 3.6 VDC, 0.01 A (Receiver only)	
	Low battery output	N.C. (Solid State Switch): 3.6 VDC, 0.01 A	
	Tamper output (cover, back box, main unit)	N.C. (Mechanical Switch): 3.6 VDC, 0.01 A Opens when cover, main unit or back box is removed.	
Indicator	Alarm indicator (Receiver)	Alarm: ON Light receiving: OFF	
	Level indicator (Receiver)	Not Light receiving: OFF Light receiving: Blinking or OFF	
	Power indicator (Transmitter)	Power ON: ON Power OFF: OFF	
	Low battery indicator	Voltage reduction: Blinking	
Operating temperature		-20°C - +60°C (-40°F - 140°F)	
Operating humidity		95 % (max.)	
Alignment angle		±90° Horizontal, ±10° Vertical	
Dimension		H x W x D mm (inch): 452 (17.9) x 83 (3.3) x 138 (5.4)	
Weight		3300 g (Total weight of Transmitter + Receiver, excluding accessories)	
International protection		IP65	

Specifications and design are subject to change without prior notice.
* The value is based on the condition that it is used within the ambient temperature range of 20 to 25°C. (LSH-20 x2 pcs)
** Using batteries other than those recommended may shorten the battery life.

NOTE

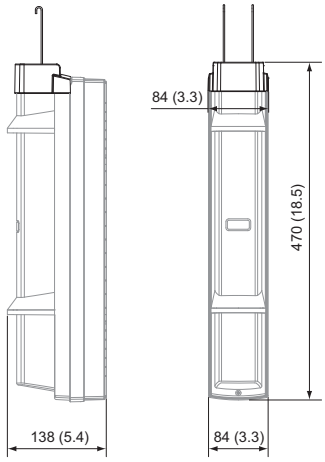
These units are designed to detect an intruder and activate an alarm control panel. Being only a part of a complete system, we cannot accept responsibility for any damages or other consequences resulting from an intrusion.
These products conform to the EMC Directive 2004/108/EC.

9 OPTIONS

9-1 OPTIONS

Anti Bird Cap ABC-4

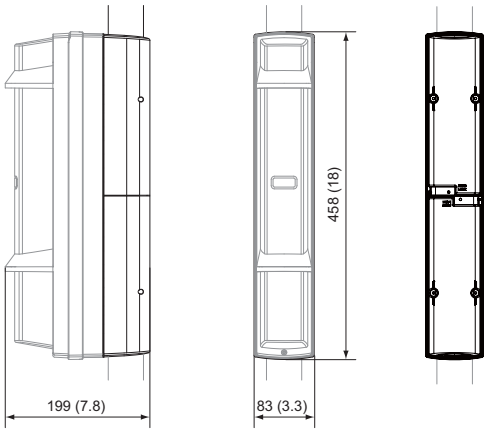
Prevent birds and small animals from the detector to reduce the false alarm.
Prevent streaming rain and snow from the front of the detector to keep the sensitivity.



Unit: mm (inch)

Back Cover BC-4

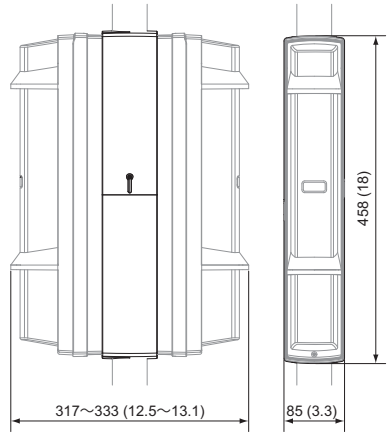
Conceal the back side of pole mounted detector.



Unit: mm (inch)

Pole Side Cover PSC-4

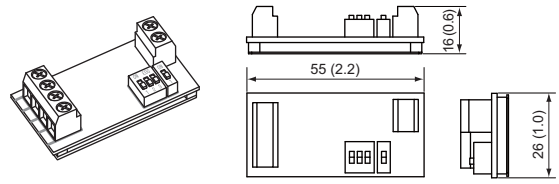
Conceal the gap of pole mounted detectors back to back.



Unit: mm (inch)

Battery Common use Unit BCU-4

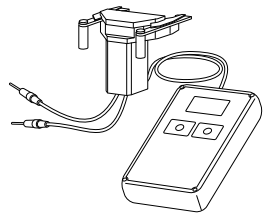
Share power source and low battery signals between the main unit and the wireless transmitter.



Unit: mm (inch)

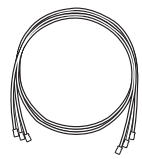
Beam Alignment Unit BAU-4

Adjust optical axis automatically. (receiver only)



Extension Cable with Connector EC-4

Extend cables to the back box and the main unit when installing in the beam tower.



Cable length: 500 mm (19.7 inch)

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