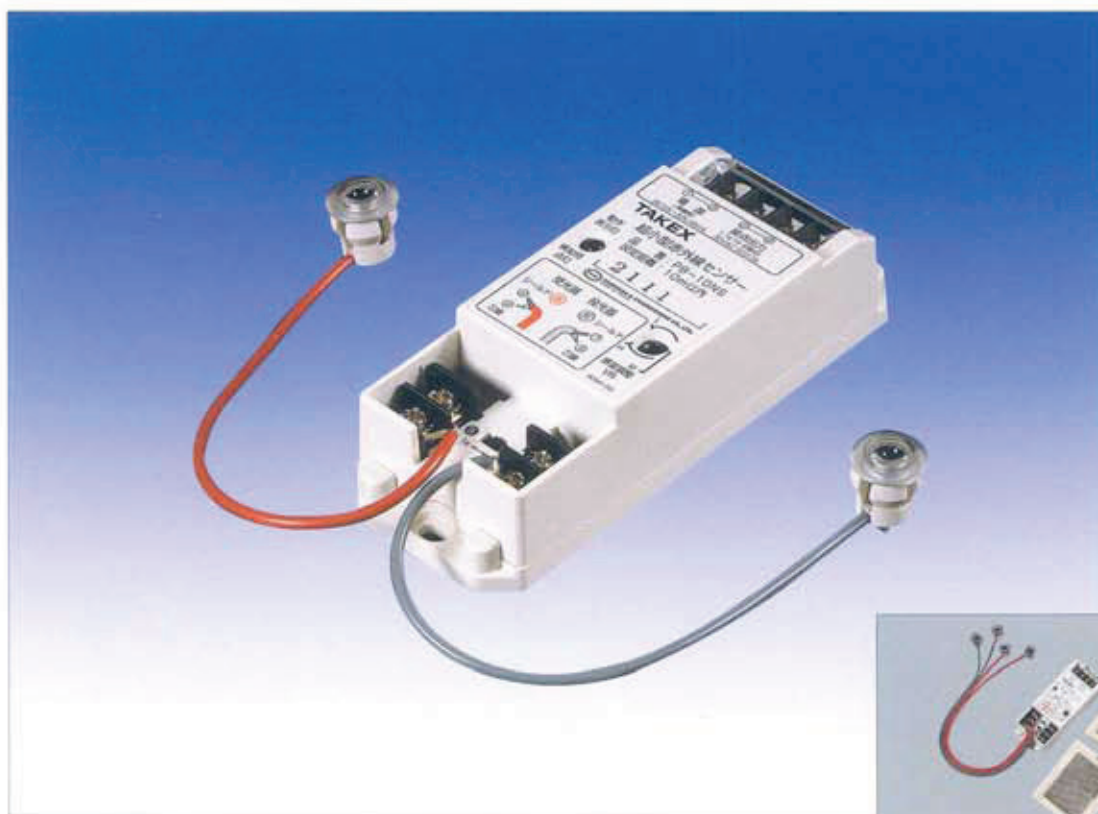


PHOTOELECTRIC BEAM SENSOR

PB-10NS(E)	:SINGLE BEAM 33ft. (10m)	(N.C./N.O. Selectable)
PB-4RNS(E)	:SINGLE BEAM REFLECTIVE 13ft. (4m)	(N.C./N.O. Selectable)
PB-10TNS(E)	:TWIN BEAM 33ft. (10m)	(N.C./N.O. Selectable)
PB-4RTNS(E)	:TWIN BEAM REFLECTIVE 13ft. (4m)	(N.C./N.O. Selectable)



PB-10NS(E)



PB-4RTNS(E)

MINIATURIZED PHOTOELECTRIC BEAM SENSOR DOESN'T USE MUCH SPACE FOR INSTALLATION!

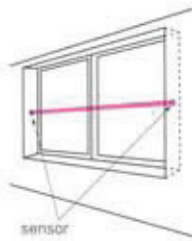
DESCRIPTION

MINIATURIZED PHOTOELECTRIC BEAM SENSOR is suitable for use inconspicuously in a wide range of applications.
(for CD/ATM machine, motor-driven shutter, window or alley.)

For CD/ATM machine



For window



EASY INSTALLATION

For sensor head, make a preliminary hole and push it only to be installed.

BUILT-IN SENSITIVITY CONTROL

Adjustable to the optimal sensitivity as the installation site demands.

SENSOR CORD CAN BE CUT TO LENGTH

Both of transmitter cord and receiver cord can be cut as the installation site requires.

No need to bundle the extra cord.

4 MODELS AVAILABLE

- PB-10NS(E) Single beam TR/RE type 33ft. (10m)
- PB-4RNS(E) Single beam reflective type 13ft. (4m)
- PB-10TNS(E) Twin beam TR/RE type 33ft. (10m)
- PB-4RTNS(E) Twin beam reflective type 13ft. (4m)

MINIATURIZED CONTROL BOX

Miniaturized control box [W:1.77" (45mm) × H:4.72" (120mm) × D:1.14" (29mm)] does not use much space for installation.

PHOTOELECTRIC BEAM SENSOR

■ COVERAGE

● PB-10NS(E)/PB-10TNS(E)

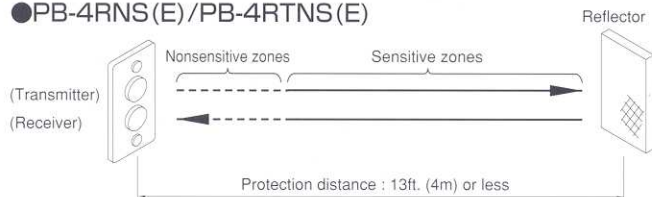


● Sensitivity adjustment

(Adjust the sensitivity adjustment control depending on the protection distance.)

Protection distance	Sensitivity adjustment
Less than 9.9' (3m)	M
More than 9.9' (3m)	H

● PB-4RNS(E)/PB-4RTNS(E)



(Note) Nonsensitive zones depend upon the sensitivity volume.

Sensitivity volume	Nonsensitivity zone
L	Within 5.9" (15cm)
M	Within 11.8" (30cm)

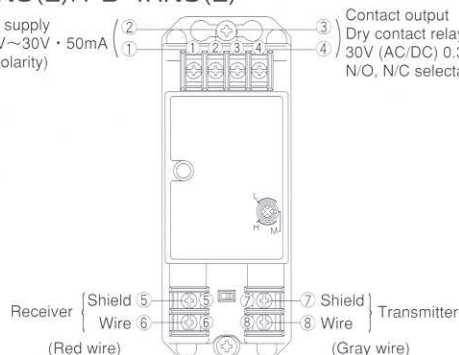
■ TERMINAL ARRANGEMENT

● PB-10NS(E)/PB-4RNS(E)

Power supply
DC10V~30V · 50mA
(non-polarity)

① ② ③ ④

③ Contact output
Dry contact relay
30V (AC/DC) 0.3A
N/O, N/C selectable



● PB-10TNS(E)/PB-4RTNS(E)

Power supply
DC10V~30V · 50mA
(non-polarity)

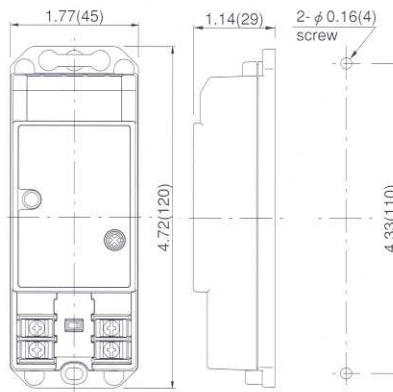
① ② ③ ④

③ Contact output
Dry contact relay
30V (AC/DC) 0.3A
N/O, N/C selectable

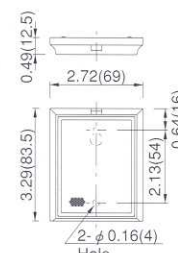


■ EXTERNAL DIMENSIONS unit:inch(mm)

● Control box <All models common>

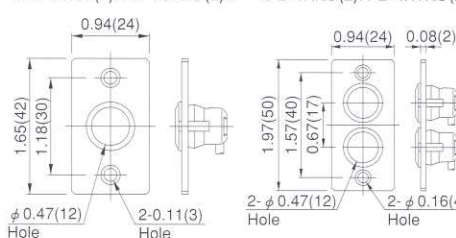


● Reflector <PB-4RNS(E)/PB-4RTNS(E)>

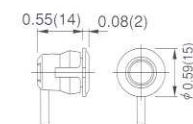


● Flush mounting plate

<PB-10NS(E)/PB-10TNS(E)> <PB-4RNS(E)/PB-4RTNS(E)>



● Sensor (Transmitter and Receiver)



■ SPECIFICATIONS

Model	PB-10NS(E)	PB-4RNS(E)	PB-10TNS(E)	PB-4RTNS(E)
Detection system	Near infrared TR/RE type	Near infrared reflective type	Near infrared TR/RE type	Near infrared reflective type
Protection distance	33ft. (10m) or less	13ft. (4m) or less	33ft. (10m) or less	13ft. (4m) or less
Supply voltage	DC10V to DC30V (Non-polarity)			
Current consumption	45mA or less		55mA or less	
Alarm output	Dry contact relay : 30V (AC/DC) 0.3A N/O, N/C selectable Contact action : Interruption time+Delay time (approx. 1 sec.)			
Response time	Detect 100msec. or more of beam interruption			
Operation LED	Lights Red during detection (beam is interrupted)			
Ambient temperature range	-13°F to +131°F (-25°C to +55°C) (without condensation or frozen)			
Appearance	Sensor : PC resin (clear) Control box : ABS resin (white)			
Weight	Sensor : 4.2oz (120g)	Sensor : 2.1oz (60g)	Sensor : 4.2oz (120g)	Sensor : 2.1oz (60g)
	Control box : 3.3oz (95g)			

The specifications are subject to change without notice.

Please note : This sensor is designed to detect intrusion and to initiate an alarm; it is not a burglary-preventing device. PULNiX is 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.

LEAF03-03R25-1

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Pulnix Europe Ltd.

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Hampshire. RG24 8PE, U.K.
Tel : 01256-475555
Fax: 01256-466268

<http://www.pulnix.co.uk/>

PULNiX PHOTOELECTRIC BEAM S

PB-10NS

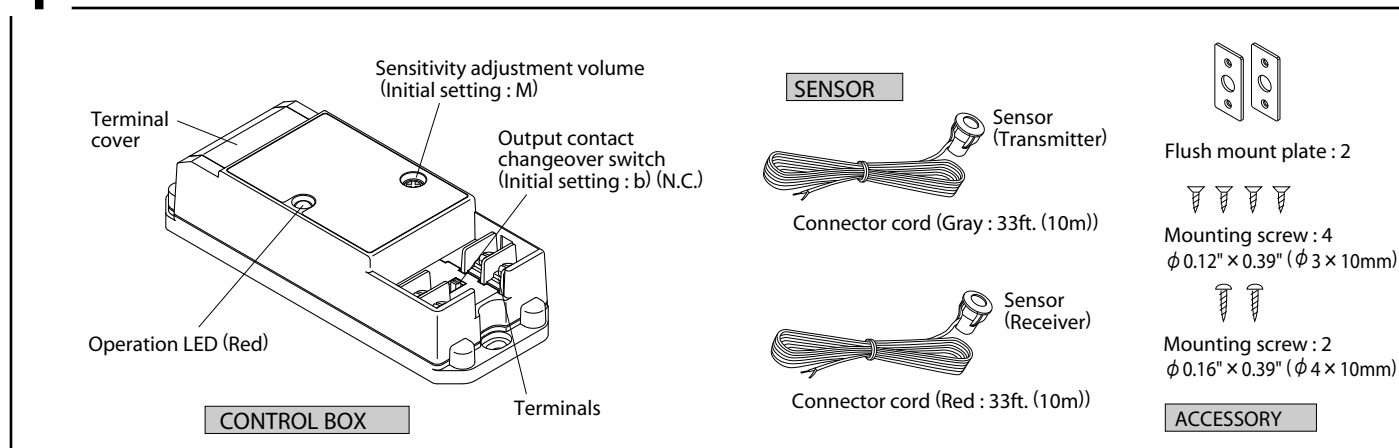
Instruction Manual

Thank you for purchasing this PULNiX product. 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 to initiate an alarm : it is not a burglary-preventing device.

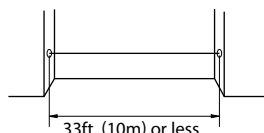
PULNiX is not responsible for damage, injury or losses caused by accident, theft, Acts of God (including inductive surge by lightning), abuse, misuse, abnormal usage, faulty installation or improper maintenance.

1 PARTS DESCRIPTION

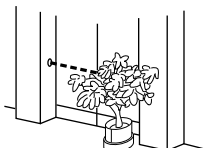


2 DO'S AND DON'T'S

1. Set detection distance between transmitter and receiver within 33ft. (10m) or less.

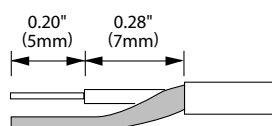


2. Remove the obstacles that may interrupt the beam.



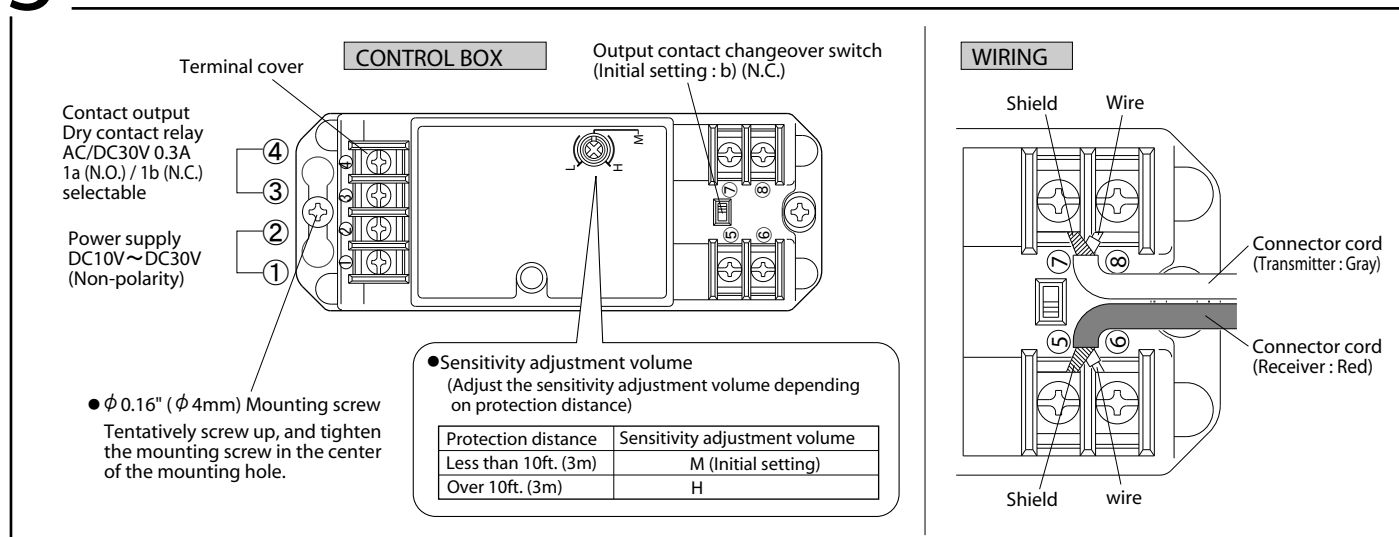
3. Do not extend the cord otherwise extension causes decrease of sensitivity. If you have no choice but to extend it, extend transmitter cord (Gray) only.

4. If you cut connector cord, cut as the below figure.



- Do not supply the power during engineering work of installation.
- Put terminal cover on terminals after the wiring.
- Do not use this product with outside of the supply voltage indicated. It may cause fire or electric shock.
- Contact output volume is $\langle 30\text{V (AC / DC) } 0.3\text{A} \rangle$ or less. Make the connected device's volume within this capacity. Otherwise it may cause fire.
- Do not disassemble or modify the device. It may cause fire or electric shock.

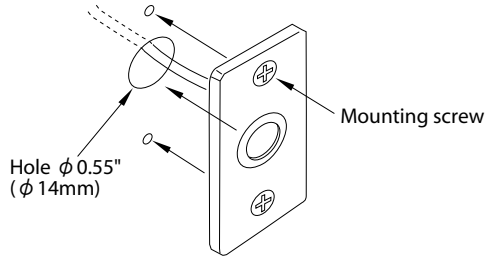
3 INSTALLATION AND WIRING



INSTALLATION

- (1) Make a hole and clean away the rough hole edge.

●Install the sensor to flush mount plate and fix it with $\phi 0.12" \times 0.39"$ ($\phi 3 \times 10\text{mm}$) mounting screws.



4 OPERATION CHECK

- (1) Make installation and wiring of control box and sensors.
[REF, 3. Installation and wiring]
- (2) Supply the power, and make sure that operation LED on the control box goes off.
Operation LED lights up when beam is interrupted and goes out when beam is not interrupted.
- (3) Interrupt beam, and make sure that operation LED lights up and the connected devices work correctly.

(NOTE) In case operation LED goes off even though beam is interrupted, sensitivity may be too high.
Reduce sensitivity by turning sensitivity adjustment volume.

5 TROUBLE SHOOTING

Symptom	Possible cause	Remedy
Inactive	Broken / improper wiring.	Check / correct wiring.
Malfunction	Detection distance does not match with sensitivity adjustment.	Adjust sensitivity.
	Some obstacles are interrupting the beam.	Remove interrupting obstacles.
	Protection distance is over 33ft. (10m).	Set the distance within 33ft. (10m).
	Lens surface is soiled or frozen.	Clear the lens surface.

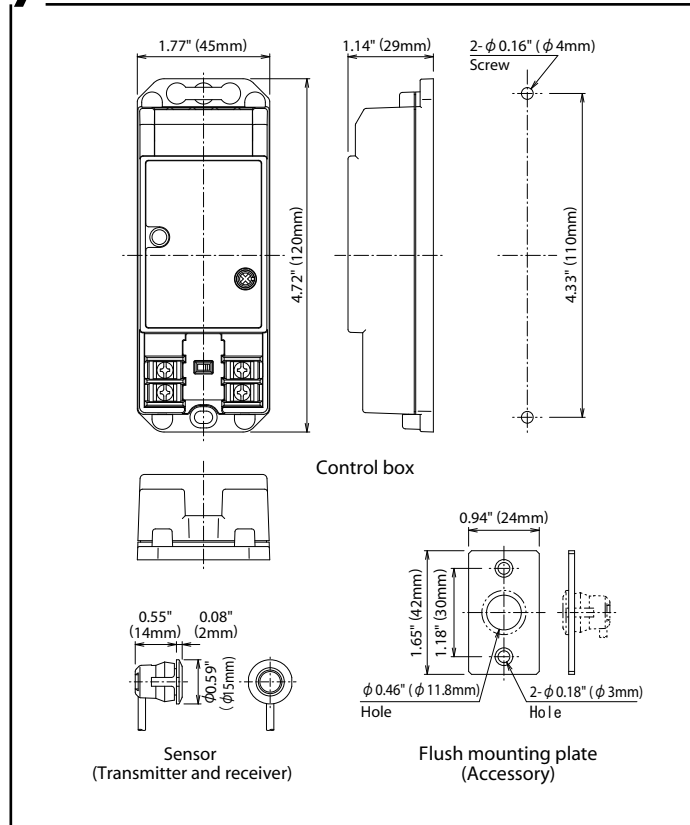
Limited Warranty

PULNiX products are warranted to be free from defects in material and workmanship for 12 months from original date of shipment. This sensor is a product that raises an output when it detects infrared rays and is not an accident prevention product. 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 PULNiX. All implied warranties with respect to PULNiX, 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, PULNiX will repair or replace, at its sole option, free of charge, any defective parts returned prepaid. Please provide the model number of the 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.

6 SPECIFICATIONS

Model	PB-10NS
Detection system	Near infrared beam
Protection distance	33ft. (10m) or less
Supply voltage	DC10V to DC30V (Non-polarity)
Current consumption	45mA or less
Alarm output	Dry contact relay : 30V (AC / DC) 0.3A 1a (N.O.) / 1b (N.C.) selectable Contact action : Interruption time + Delay time (approx. 1 sec.)
Response time	Detect 100msec. or more of beam interruption
Operation LED	Lights Red when detection (beam is interrupted)
Ambient temperature range	-13°F to +131°F (-25°C to +55°C) (without condensation or frozen)
Appearance	Sensor : PC resin (clear) Control box : ABS resin (white)
Weight	Sensor : 4.2oz (120g) Control box : 3.3oz (95g)
Accessory	$\phi 0.16" \times 0.39"$ ($\phi 4 \times 10\text{mm}$) mounting screw $\times 2$ $\phi 0.12" \times 0.39"$ ($\phi 3 \times 10\text{mm}$) mounting screw $\times 4$ (for flush mounting plate) Flush mounting plate $\times 2$

7 EXTERNAL DIMENSIONS



TAKEX TAKENAKA ENGINEERING CO., LTD.

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Fax : 01256-466268
<http://www.pulnix.co.uk/>

No.05-115 b303

INSTRUCTION MANUAL

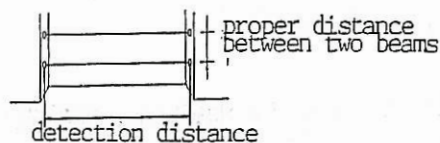
Thank you for purchasing this TAKEX product. This sensor will provide long and dependable service when properly installed. Please read this Instruction Manual carefully for correct and effective use.

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

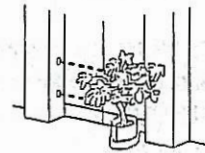
1. INSTALLATION

- (1) Set detection distance 10m or less.

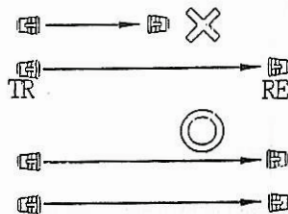
When AND output switch is selected, set the distance between two beams properly so that objects don't fail to be detected.



- (3) Remove obstacles that may interrupt the beam



- (2) Use both two beams under the same distances.

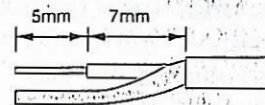


- (4) Do not extend connector cord.

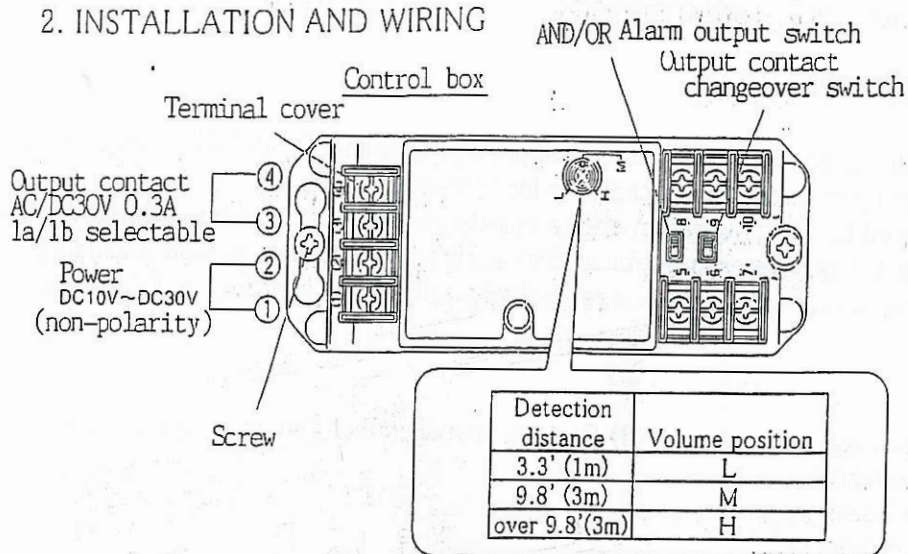
Extension of connector cord will cause deterioration of sensitivity.

But if you have no choice but to extend it, extend transmitter cords (gray) only.

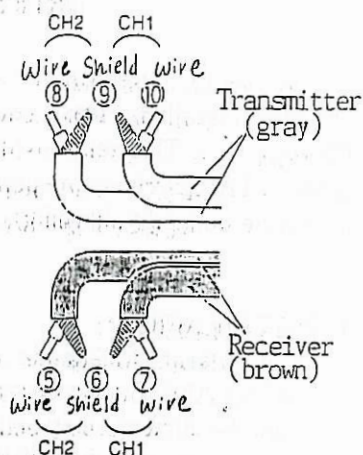
- (5) When you cut connection cord, cut as the following figure.



2. INSTALLATION AND WIRING

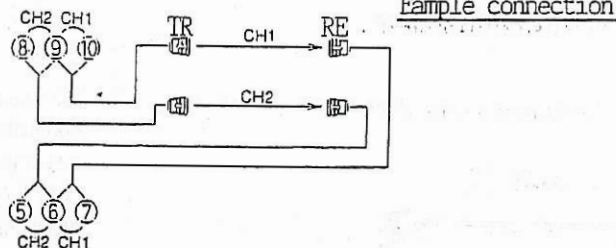
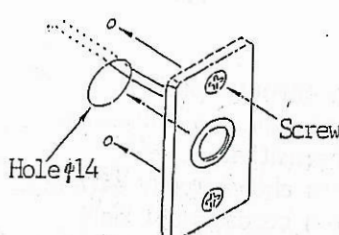


Wiring



- (1) Make a hole and clean away the rough hole edge.
Attach sensor to flush mount plate and fix it to the hole with screws.

*Attach transmitter and receiver at the same height.



3. OPERATION CHECK

- (1) Supply power and make sure that operation LED on control box goes off.
- (2) Turn alarm output switch to "OR".

Make sure that when one of the two beams is interrupted, operation LED lights up and connected appliances work properly.

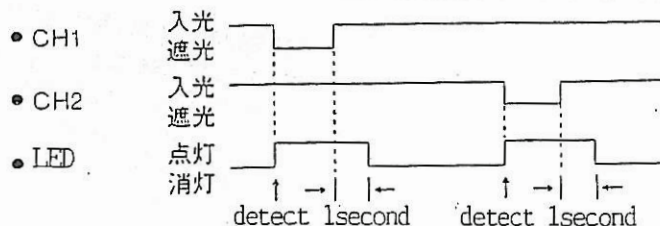
Turn alarm output switch to "AND"

First, make sure that operation LED goes off when one of the two beams is interrupted.

Then, make sure that LED lights up and connected appliances work properly when both of the beams are interrupted.

- * If LED is still off when beams are interrupted, sensitivity adjustment volume would be too high.
Lower the sensitivity.

- Turn alarm output switch to "OR".
Alarm is initiated when one of the two beam is interrupted.



- Turn alarm output switch to "AND". Make sure that an alarm is initiated when both of the beams are interrupted.

