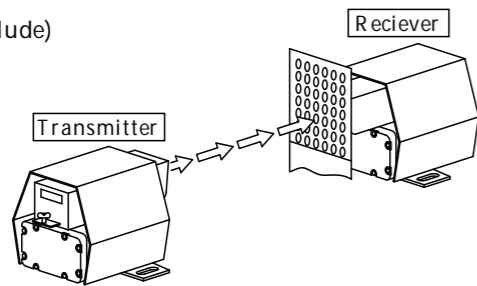


4 TEST

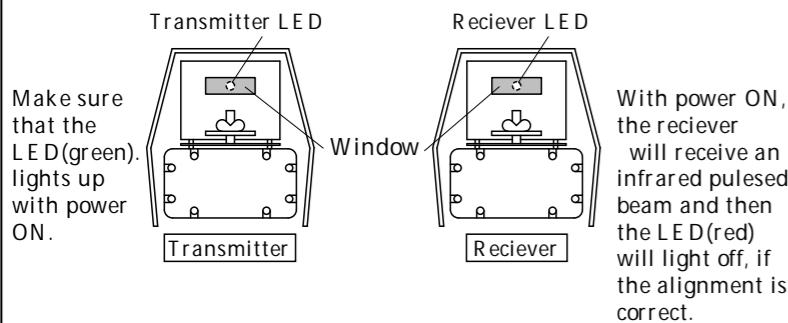
Sensitivity test sheet (include)

Apply the sheet on the receiver lens. Sensitivity is good when receiver LED does not light up. (Details show on the sheet)



5 OPERATION

The LEDs in the windows on the back of transmitter and receiver will light when power is supplied. Then the units are in the protected condition the receiver LED goes out, when the beam is interrupted, the receiver LED lights.

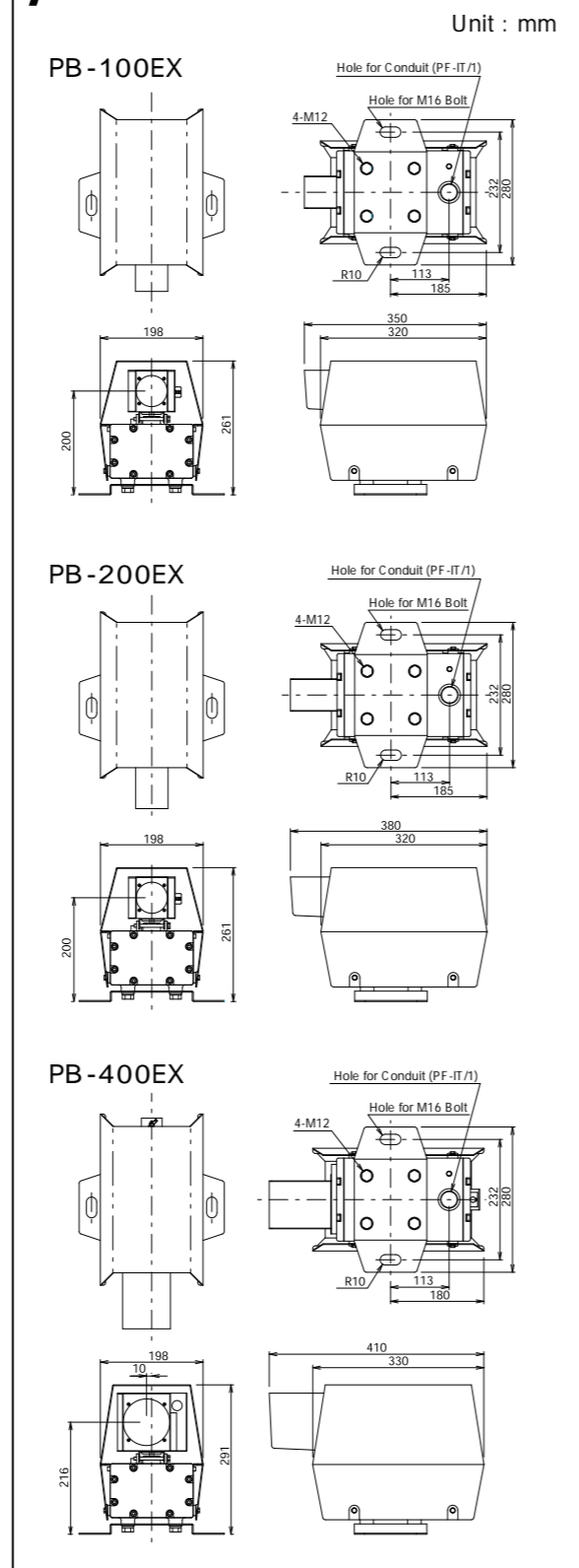


6 SPECIFICATIONS

Model	PB-100EX	PB-200EX	PB-400EX
Protection distance	100m(330ft) or less	200m(660ft) or less	400m(1320ft) or less
Max. Arrival distance	800m(2640ft)	1600m(5280ft)	3200m(10560ft)
Infrared rays	Pulsed beam by infrared LED Wave length :9400 Double modulated frequency 500Hz to 20KHz		
Response time	50 to 100msec		
Alarm signal	Relay output S.P.S.T(N/C) Reset time : Approx 1sec. Contact rating : 100V · 0.5A · Max 10VA		
Supply voltage	AC 100V 50/60Hz		
Power consumption	Transmitter : 2.5VA Receiver : 3VA		
Ambient temperature range	-35 to +60 (-30F to +140F)		
Mounting position	Class I & hazardous location		
Weight	Transmitter : 10kg Receiver : 10kg	Transmitter : 12kg Receiver : 12kg	
Appearance	Epoxy resin baked coating stainless steel plate		

Limited Warranty :
TAKEX products are warranted to be free from defects in material and workmanship for 12 months from original date of shipment. Our warranty does not cover damage or failure caused by Acts of God (including inductive surge by lightning), abuse, misuse, abnormal usage, faulty installation, improper maintenance or any repairs other than those provided by TAKEX. All implied warranties with respect to TAKEX, 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, TAKEX 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.

7 EXTERNAL DIMENSIONS



TAKEX EXPLOSION-PROOF PHOTOELECTRIC BEAM SENSOR

- PB-100EX : 330ft (100m)
- PB-200EX : 660ft (200m)
- PB-400EX : 1320ft (400m)

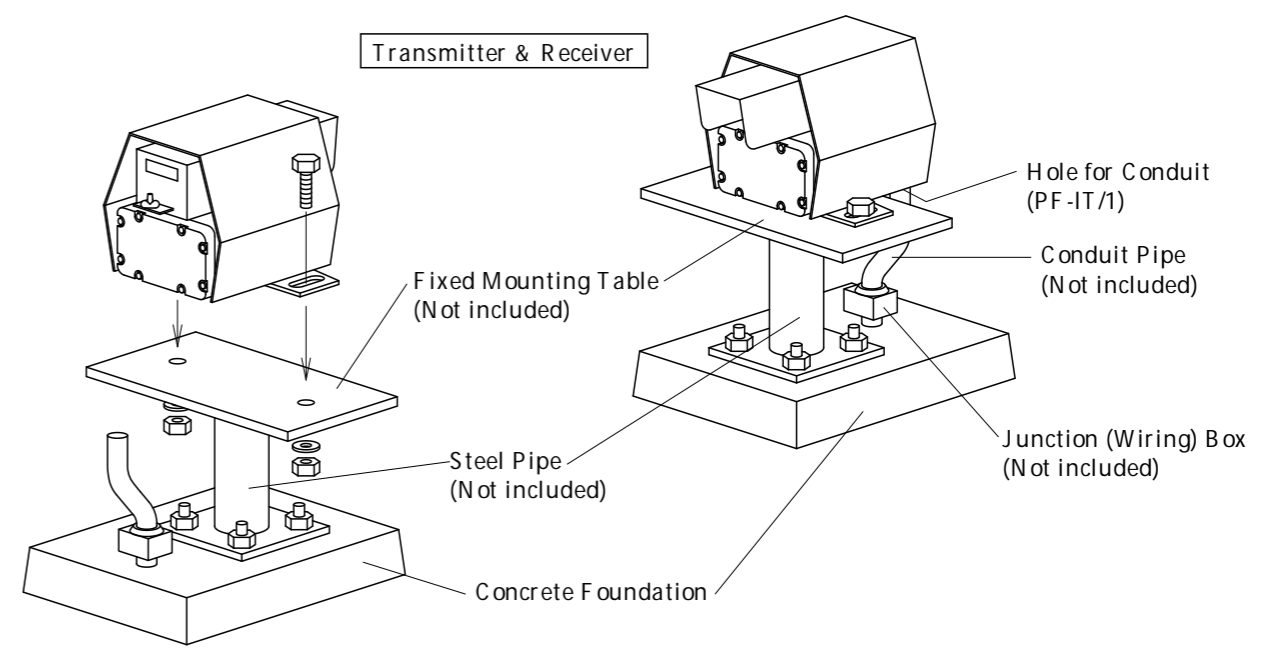
Instruction Manual

Thank you for purchasing this product.
Read this instruction manual before using the product to make sure that you use it correctly.

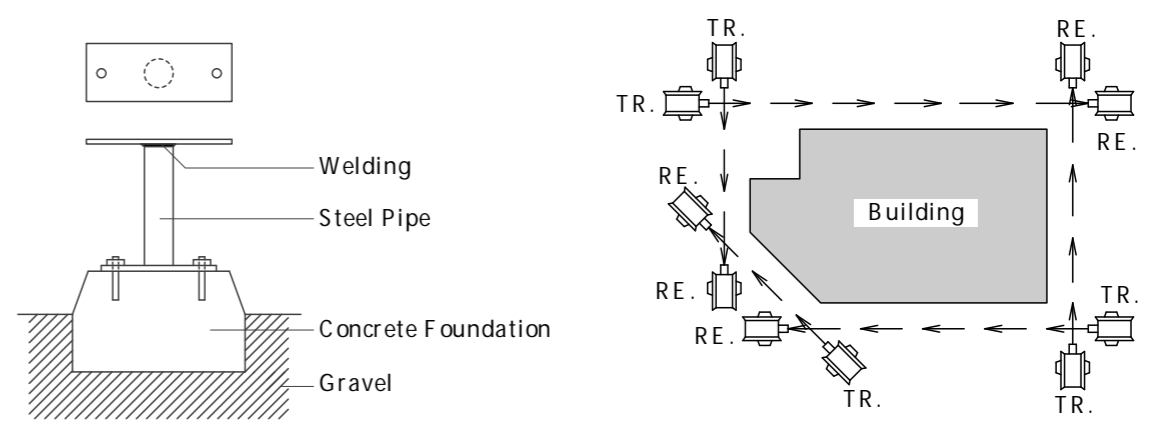
The TAKEX Explosion-proof Sensor consists of a transmitter which emits the infrared pulsed beam and a receiver which receives the beam. The units are manufactured in accordance with Technical Recommendations by Ministry of Labour, The Reserch Institute of Industrial Safety Japan. Please read this manual carefully for correct and effective use.

1 INSTALLATION

Mount both transmitter and receiver on their respective tables which are fixed at 80cm to 100cm from the ground.



To be constructed in accordance with the rule for explosion-proof apparatus. Please refer Item 2).



To protect around a building as illustrated above, install the transmitters and the receivers so as to cross infrared pulse beams at each corner.

TAKEX TAKENAKA ENGINEERING CO., LTD.

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3350 Montgomery Drive , Santa
Clara, CA 95054, U.S.A.
Tel : 408-747-0100
Fax : 408-734-1100
http : //www. takex. com
- In Australia**
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- In the U.K.**
Takex Europe Ltd.
Brisbane office : 1/50 Logan
Road, Woolloongabba
Queensland 4102, Australia
Tel : 07-3891-3344
Fax : 07-3891-3355
http : //www. takexeurope. com

2 WIRING

2-1 Wire Materials

(1) Use insulated wires enclosed in rubber, vinyl, polyethylene or fluoro-carbon resin.

I. E.

- | | |
|---|------------------|
| a) 600V grade polyvinyl chloride insulated wires (IV) | • • • JIS C 3307 |
| b) 600V grade heat-resistant polyvinyl chloride insulated wires (HIV) | • • • JIS C 3317 |
| c) 600V grade aluminum conductor polyvinyl chloride insulated wires (AI-IV) | • • • JIS C 3372 |
| d) 600V grade natural rubber insulated wires (SBR) | • • • JIS C 3304 |
| e) 600V grade silicon rubber insulated glass fiber braided wires (KGB) | • • • JIS C 3323 |
| f) 600V grade polyethylene insulated wires (IE) | • • • JIS C 3326 |
| g) Other wires similar in position to the above. | |

(2) Conduit

Use rigid steel conduit (JIS C 8305).

(3) Accessories for conduit (Iron and steel pipe fittings)

Use junction boxes, couplings, sealing fittings and flexible fitting shaving pressure and explosion proof construction. Use lock nuts for rigid metal conduit.

2-2 Conduit Arrangement

(1) Screw threads

Conduit is connected to fittings or terminal boxes with parallel pipe threads. Tighten with lock nuts after threading 5 threads or more.

(2) Flexible fittings (couplings)

Use flexible fittings or couplings where flexibility is required. The inner radius when bending a curve must be 5 times or more the outer diameter of fitting tube. Do not use a wrench on the flexible fittings.

(3) Sealing

Mount the sealing fittings on the conduit as described below. Fill the inside of the fittings with compounds to shut off the conduit pipe.

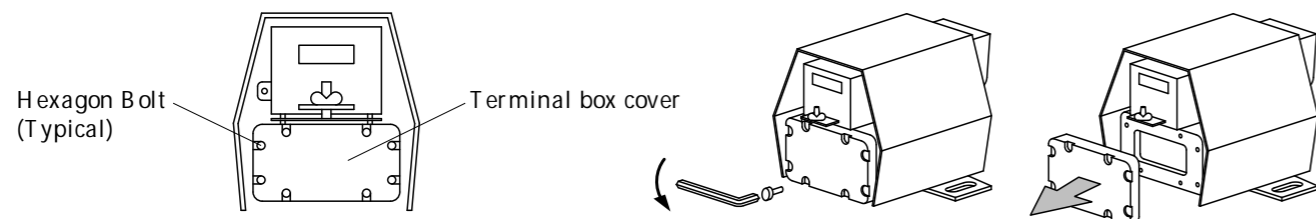
- On one side of the conduit which passes through the wall between a class I hazardous location and the other except on the conduit between the sealing fittings and wall.
- If you use JIS No.54 or bigger number conduit pipe, fill the fittings with compounds close to and within 45cm from the terminal box or the like which includes wire junction in. (The closer, the better.)
- Within 45m from the box and as close to it as possible on the conduit which is feeding in or out of the terminal box or junction box in a distributor panel.

2-3 Drip-proof

When it is apparent that water may collect in conduit, boxes and sealing fittings, prevent water from staying in by providing drainage.

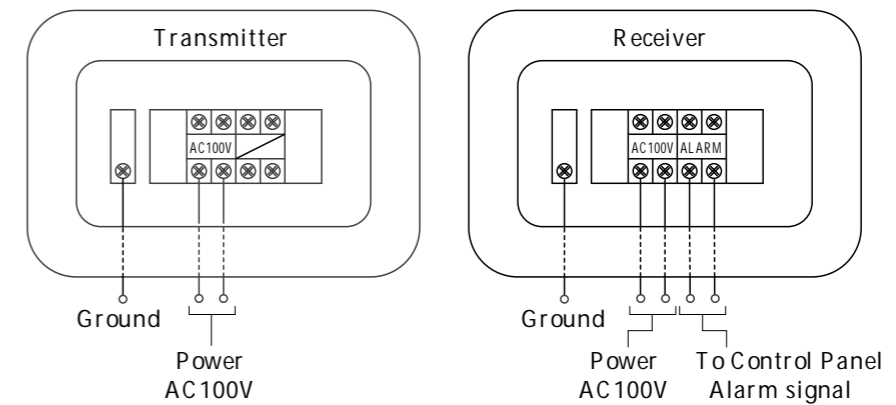
2-4 Wiring

(1) Detach the the back cover of transmitter and receiver with the hexagon wrench provided.



②

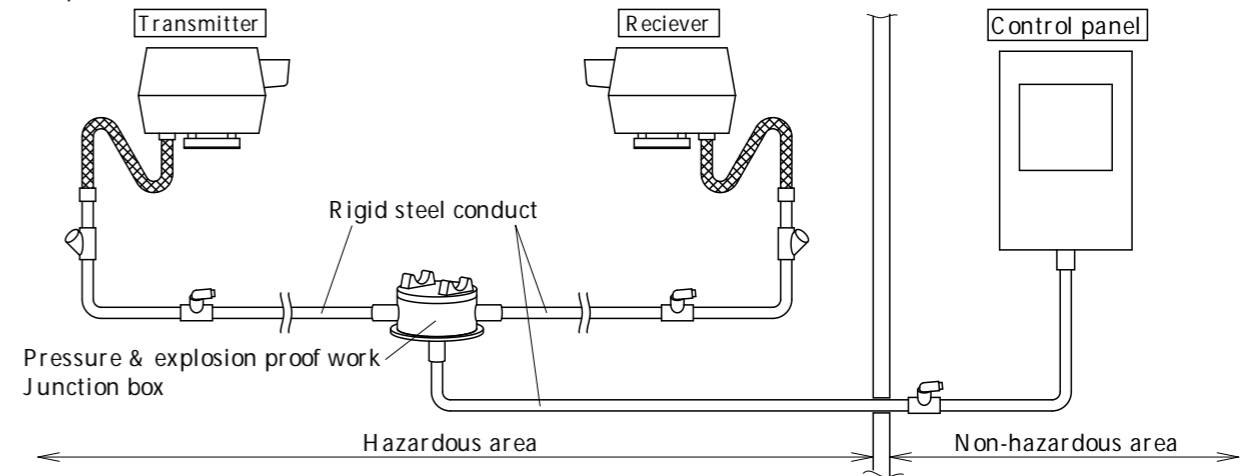
(2) The following figures show terminal arrangement. Connect 100V power source with 100V, terminals on transmitter and receiver. Connect the wires from control panel with the contact terminals on receiver.



(3) After wiring, re-attach the terminal cover.

(4) Refer to Explosion-proof standards for other wiring work.

-Example-

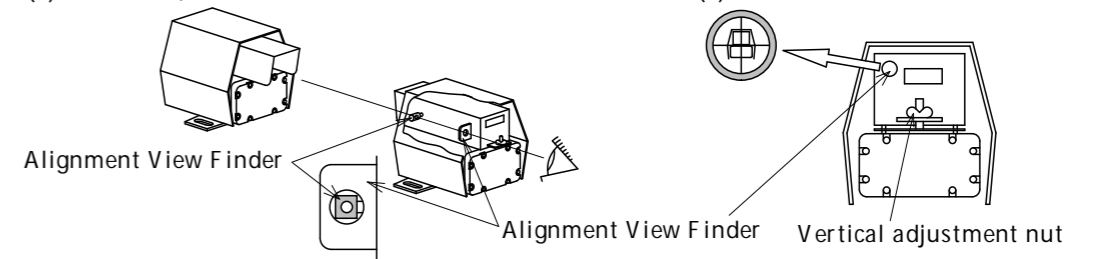


3 ALIGNMENT

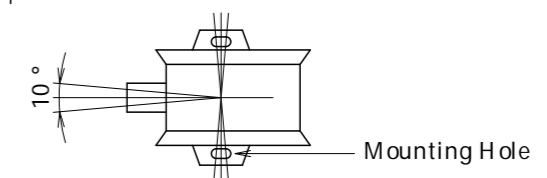
(1) Look through the view finder on transmitter and receiver. Adjust with the mounting hole and the vertical adjustment nut until the opposite unit is centered in the finder.

(1) PB-100E X, PB-200E X

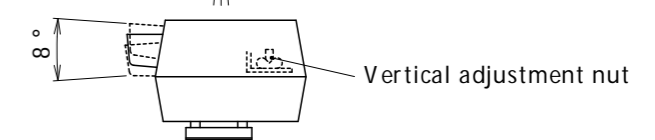
(2) PB-400E X



* Horizontal Adjustment
Accessible through the mounting hole.
Adjustable range is 10° (±5°).



* Vertical Adjustment
Use the vertical adjustment screw on the back. Adjustable range is 8°.



③