»FOTOCELDA INFRARROJA DE SEGURIDAD MARCA OPTEX MOD. OS-12CT.

OPTEX

Beam Switch OS-12C T

5924321 FEB 2016

English

Single / Double Beams

MANUFACTURER' S STATEMENT

Read this operation manual carefully before use to ensure proper operation of this product. Failure to read this operation manual may cause improper operation and may result in serious injury or death of a person.The meanings of the symbols are as follows.

⚠ WARNING	Disregard of warning may cause the improper operation causing death or serious injury of a person.
⚠ CAUTION	Disregard of caution may cause the improper operation causing injury of a person or damage to objects.

⚠ WARNING Danger of electric shock.

Do not wash, disassemble, rebuild or repair the sensor, otherwise it may cause electric shock or breakdown of the equipment.

⚠ WARNING Danger of getting caught between the door.
(Please explain to the building owner/operator)

Even when someone stops on the threshold, the door closes unless the light beam is cut off (The beam switch outputs the signal only when the light beam is cut off).
The beam switch is not designed as an apparatus to prevent accidents.
It should be used strictly for the purpose of an auxiliary apparatus for safety.

NOTE

1. When the equipment is in failure, the door is held open. (This is the function to secure the safety of traffic.)
2. Only use the sensor as specified in the supplied instructions.
3. Be sure to install the sensor in accordance with the local laws and standards of your country.
4. Before leaving the jobsite, be sure that this sensor is operating properly and instruct the building owner/operator on proper operation of this sensor.

SPECIFICATIONS

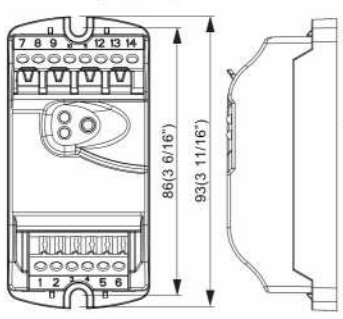
Model	OS-12C T
Installation Distance	Less than 10m (32' 10")
Detection Method	Point to Point Near Infrared Light Beam
Power Supply	12 to 24V AC / 12 to 30V DC
Current Draw	160mA MAX
Operation Indicator	BEAM1 / BEAM2 Stand-by : Green ON / Red ON Detection Active : Green OFF / Red OFF Insufficient sensitivity : Green Blink / Red Blink Test input error :Simultaneous twice Blinking(Red & Green)
Test input	Opto coupler Voltage 5 to 30VDC Current 6mA Max. (30VDC)
Safety Output (Initial setting)	50V 0.3A (Resistance Load) - N.O./N.C. Switchable
Response Time	Approx. 0.1 sec (from the moment of beam cut-off)
Relay Hold Time	Approx. 0.5 sec
Operating Temperature	-20°C to +55°C (-4°F to +131°F)
Weight	Amplifier: 63g (2.2oz)
Component	1 Amplifier, 2 Mounting screws, 1 Manual (Optional sensor head is necessary for operation)

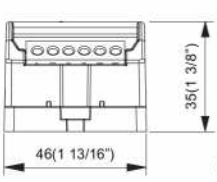
NOTE It is possible to use OS-12C T as an amplifier for 1 or 2 beam use by attaching a separately sold SensorHead.

NOTE The specifications herein are subject to change without prior notice due to improvements.

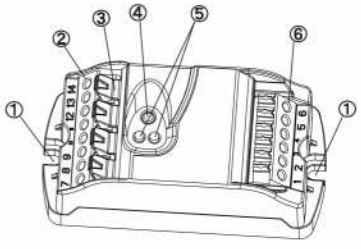
OUTER DIMENSIONS AND PART NAMES

< Amplifier Part >





mm[inch]



① Mounting Hole
② Terminal Block (No.7 to 14) SensorHead side
③ Wire Connection Button
④ Programming Button
⑤ Operation Indicator (LED)
⑥ Terminal Block (No.1 to 6) Power Supply & Signal side

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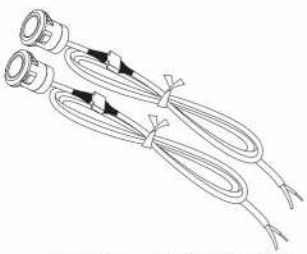
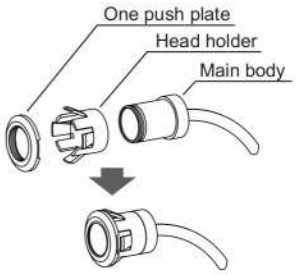
SEPARATELY SOLD OPTIONAL ITEMS

< SensorHead unit >



SH-7MC : 7m (22' 11 1/16")
SH-10MC : 10m (32' 9 11/16")



One push installation type
Mounting hole: ø12mm (1/2")

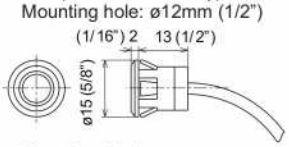
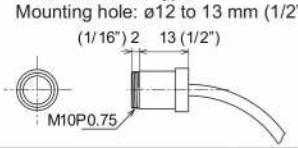
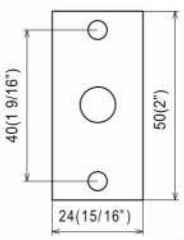


Plate installation type
Mounting hole: ø12 to 13 mm (1/2")



< Mounting Plate >
Silver or Bronze



mm[inch]

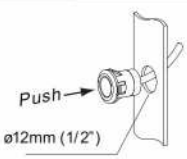
< One push outer plate >
Mirror surface
or
Chrome

INSTALLATION

1 Mounting the SensorHeads (Option)

① One push installation type

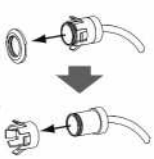
Drill a mounting hole ø12mm (1/2") on the door jamb.
Put the sensor heads into the mounting hole.

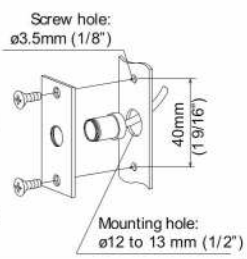


② Plate installation type

Drill a mounting hole ø12 to 13 mm (1/2") and two screw hole ø3.5 mm (1/2") on the door jamb.

Remove one push plate and head holder from sensor head.
Affix the main body to the plate.
Screw the plate to the door jamb.





2 Installing the amplifier

Use the provided screws (2 pieces).
*The size of the hole is ø3.5 mm (1/8")

◆ On drilling the mounting holes ◆

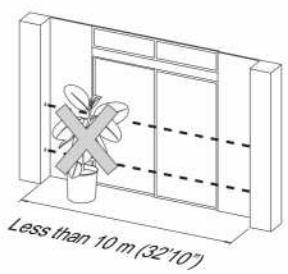
1. Be sure to drill holes so that the SensorHeads faces each other.
2. After drilling the holes, remove the flashes around the holes. Otherwise, the apparatus may not operate properly as the SensorHead rides on the flashes causing tilts.

◆ On setting of one push plate ◆

Be sure to push the SensorHeads in securely. If the SensorHeads are not secured, it may cause an unnecessary activation signal.

◆ Installation Site Environment ◆

Do not place any swaying object which cuts off the beam path.
Otherwise the door may be held open.



◆ Distance between the SensorHeads ◆

Be sure to set the distance to less than 10m (32' 10"). If the distance is more than 10m (32' 10") , the door may be held open.

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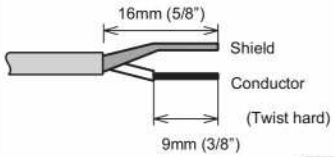
INSTALLATION (CONTINUED)

3 Wiring SensorHeads

◆ Cutting the wires ◆

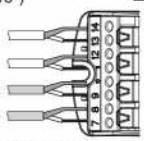
When cutting the wires, prepare the tip of the wires as follows:



⚠ WARNING Danger of electric shock.
Before starting the procedure, be sure to turn off the power supply.

⚠ CAUTION Risk of breaking the apparatus.
When cutting the wires, be sure to prepare the tip of the wires as shownon the left: If the covers of the shielding wires are peeled off toolong,the adjacent tips can easily contact each other causingbreakdown of the apparatus.

BEAM2 Emitting wire grey
BEAM1 Emitting wire grey
BEAM2 Receiving wire blue
BEAM1 Receiving wire blue

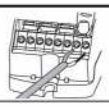


Insert the wires to Terminal Block as shown on the left.

◆ Prohibition of extending wires ◆

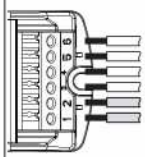
Do not extend the wires. Otherwise, the apparatus may be influenced by noises causing malfunction.

Insert the wire as you press the Wire Connection Button. Then, release the finger. Be sure to insert both the shield and the conductor.



4 Connecting power supply wires and output signal wires

Insert the wires to Terminal Block as shown below.



⚠ CAUTION Risk of breaking down the apparatus.
Be sure to connect the power supply wires to terminal 1 and 2.
If wired wrongly, the apparatus may break down.

◆ Stated connection capacity ◆

- Solid(Rigid)ø0.4-ø1.2mm (AWG26-18)
- Stranded(Flexible)0.3mm²-0.75mm² (AWG22-20)

(Strand diameter shall be more than 0.18mm)

Press the Wire Connection Button of the power supply signal side and insertthe wires. Be sure thatall the wires aresecurely connected.

◆ Warning about wiring ◆

Do not connect more than 2 wires to one terminal.

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ADJUSTMENT & CHECKING

1 Sensitivity Adjustment

① Press Programming Button for more than one second. When the green and red LED blinking becomes green and red (no blinking), the setting is completed. The propersensitivity is adjusted automatically.

② Check the auto-set adjustment with the table below.

LED	State
Green/Red ON	The sensitivity has been set correctly. The adjustment is completed. (When using two beam)
Green ON	The sensitivity has been set correctly. The adjustment is completed. (When using one beam)
Green/Red Blink alternately	The sensitivity is insufficient. Check the followings.
Simultaneous twice Blinking(Red&Green)	Setting error.Contact your installer or service engineer.

Checking Item
If there is no person or object in the detection area.
If the lens surface is clean.
If the wire connections are done properly.
If the emitting/receiving SensorHeads are mounted straight.(They should not be tilted.)

◆ Sensitivity Adjustment ◆
Set the sensitivity in the environment same as the actual regular use.
Also, be sure that there is no swaying object in the area.

◆ When changing the number of SensorHead ◆
Be sure to press the Programming Button. All SensorHeads can be adjusted at once.
The apparatus does not operate properly if Programming Button is not pressed.

◆ Re-setup of sensitivity ◆
For the maintenance, press Programming Button to readjust.
The sensitivity is set automatically.

2 Select N.O./N.C. and Active Low/Active High

OS-12C T needs to be adjusted according to Test input and Output from operators.
OS-12C T has 4 amplifier modes (A to D).
When safety output of operator is N.O. and Active Low, proceed to **3. Checking the operation**. (No need for adjustment on amplifier mode)
If not, follow procedures below to adjust properly.

① Press and hold Programming Button until red LED starts to blink, it becomes amplifier mode.

② Press Programming Button to select appropriate setting out of 4 amplifier modes (A to D) within 10 seconds*, referring to chart below.

Amplifier Mode			
A	Green / Red	Active-Low / N.O.	One Push
B	Green / Red	Active-High / N.O.	One Push
C	Green / Red	Active-Low / N.C.	One Push
D	Green / Red	Active-High / N.C.	

③ Press Programming Button until green and red LED blinking goes off to finalize setting.

Amplifire will not work right if the adjustment is not completed.
*When it exceeds 10 seconds without any operation, follow procedure again from start.

NOTE Select B mode to work with operators without Test input function.

NOTE Select amplifier mode according to operators, otherwise OS-12C T does not work properly.

3 Checking the operation

Check the operation of the apparatus according to the following chart.

Entry motion (Image)					
Operation Indicator		OFF	ON (Green/Red)	OFF	ON (Green/Red)
Status		Power OFF Failure of the apparatus	Stand-by status No person or object exists between the SensorHeads	While a person or object is passing in the beam path	After the traffic has passed, the status becomes stand-by.
Output	N.O.				
	N.C.				

INFORM THE FOLLOWING ITEMS TO THE BUILDING OWNER/OPERATOR

1. When turning the power on, always walk-test the sensor to ensure proper operation.
2. Always keep the Lens surface clean. If dirty, wipe the lens with a damp cloth. (Do not use any cleaner or solvent)
3. Do not wash the sensor with water.
4. Do not disassemble, rebuild or repair the sensor yourself; otherwise electric shockmay occur. Contact your installer or the sales engineer if you want to change the settings.
5. Do not place an object that moves or emits light in the detection area.
6. (Ex. Plant, illumination etc.)
7. Do not paint the Lens surface.

TROUBLESHOOTING

Trouble	Possible Cause	Solution
Does not operate	Irregular supply voltage	Adjust to the stated voltage.
	Wire cut or bad connection	Check the wiring.
	Inappropriate installation distance or condition	Check the installation distance and condition.
	Amplifire mode setting is not adjust the safety output type of your operator.	Check the amplifire mode setting (SEE ADJUSTMENT & CHECKING 2)
Operates by itself (Ghosting)	Inappropriate installation distance or condition	Check the installation distance and condition.
	Something swaying between the SensorHeads cutting off the beam.	Remove the obstruction.
	Dirty lens.	Remove the dirt.
	Amplifire mode setting is not adjust the safety output type of your operator.	Check the amplifire mode setting (SEE ADJUSTMENT & CHECKING 2)

Contact your installer or the sales engineer if:
- you need to change the settings or replace the sensor.
- the trouble still persists after checking and remedying as described above.

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