OPTEX OS-12C Automatic Door Sensor User Manual

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Contents

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**
Indicates that the disregard of the warning may result in serious injury or death.

 **CAUTION**
Indicates that the disregard of the caution may result in injury or physical damages.

Note

1. When the equipment is in failure, the door is held open.
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 property and instruct the building owner/operator on proper operation of this sensor.

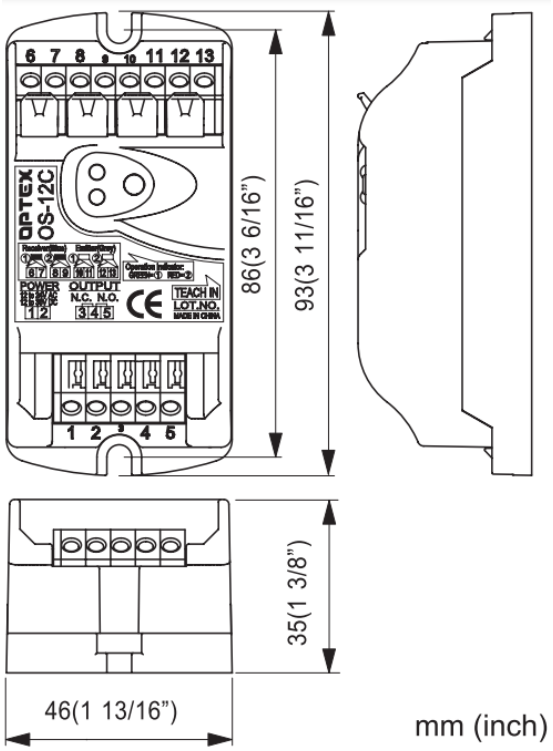
SPECIFICATIONS

Model	OS-120 / OS-120 (HT0.1)
Installation distance	Less than 10m (32′ 10″)
Detection method	Point to point near infrared light beam
Power supply	12 to 24VAC / 12 to 30VDC
Current draw	160mA MAX
Operationindicator	BEAM1 BEAM2Stand-by: GREEN ON RED ONDetection active: GREEN OFF RED OFFInsufficient sensitivity: GREEN BLINK / RED BLINK
Output contact	N.O. / N.C. 50V 0.3A (Resistance load)
Response time	Approx. 0.1sec (from the moment of beam cut-off)
Relay hold time	Approx. 0.5sec / OS-120, 0.1sec / OS-12C (HT0.1)(from the moment of bea m input)
Operating temperature	-20°C to +55°C (-4°F to +131°F)
Weight	Amplifier : 65g (2.3oz)
Component	1 Amplifier, 2 Mounting screws, 1 Manual(Optional sensor head is necessary for operation)

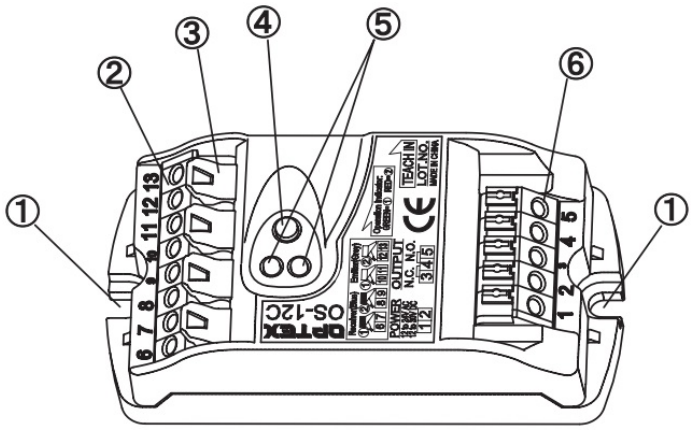
NOTE
It is possible to use OS-12C as an amplifier for 1 or 2 beam use by attaching a separately sold Sensor head.

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

OUTER DIMENSIONS



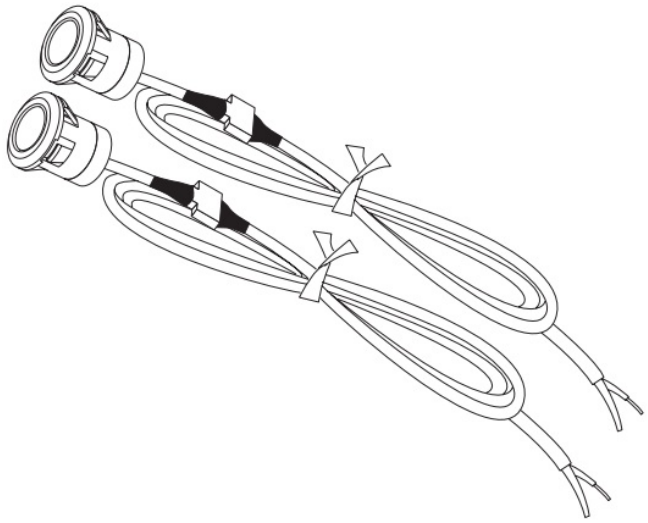
< Amplifier part >



1. Mounting hole
2. Terminal block (No.6 to 13) Sensor head side
3. Wire connection button
4. Sensitivity teach in button
5. Operation indicator (LED)
6. Terminal block (No.1 to 5) Power supply & Signal side

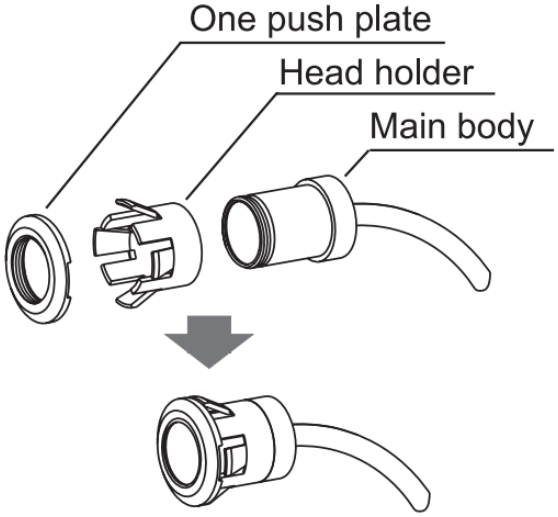
SEPARATELY SOLD OPTIONAL ITEMS

<Sensor head unit>



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

Sensor head



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

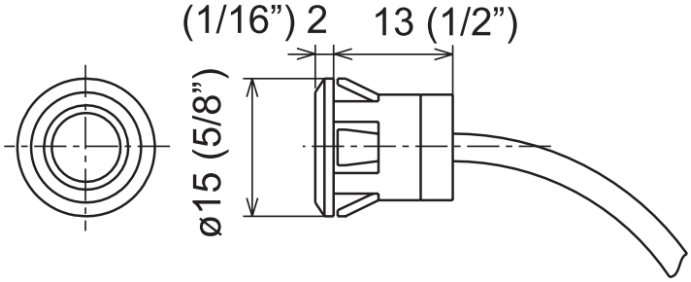
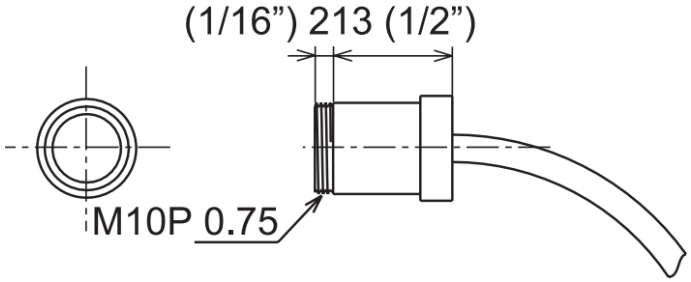
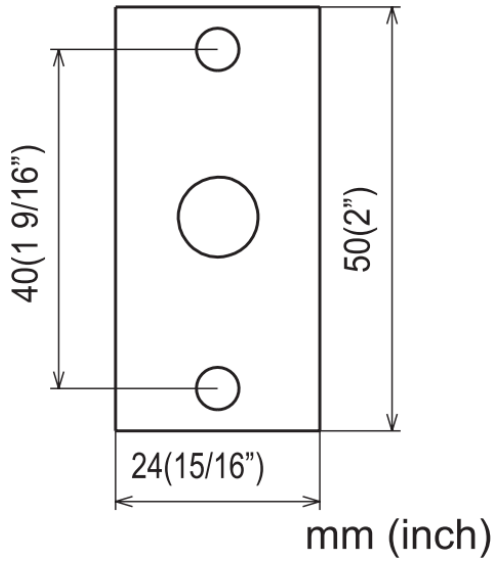


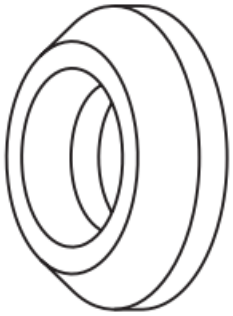
Plate installation type
Mounting hole: ø12 to 13 mm (1/2″)



<Mounting plate>
Silver or Bronze



<One push outer plate>
Mirror surface or Chrome



INSTALLATION

Mounting the sensor heads (Option)

One push installation type
Drill a mounting hole ø12mm (1/2″) on the door jamb. Put the sensor heads into the mounting hole.

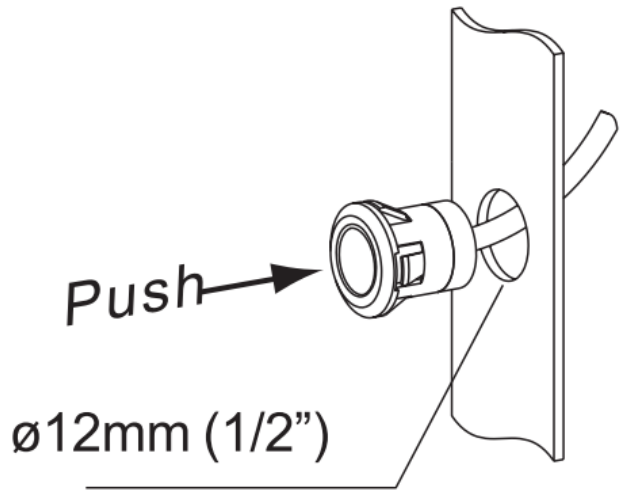
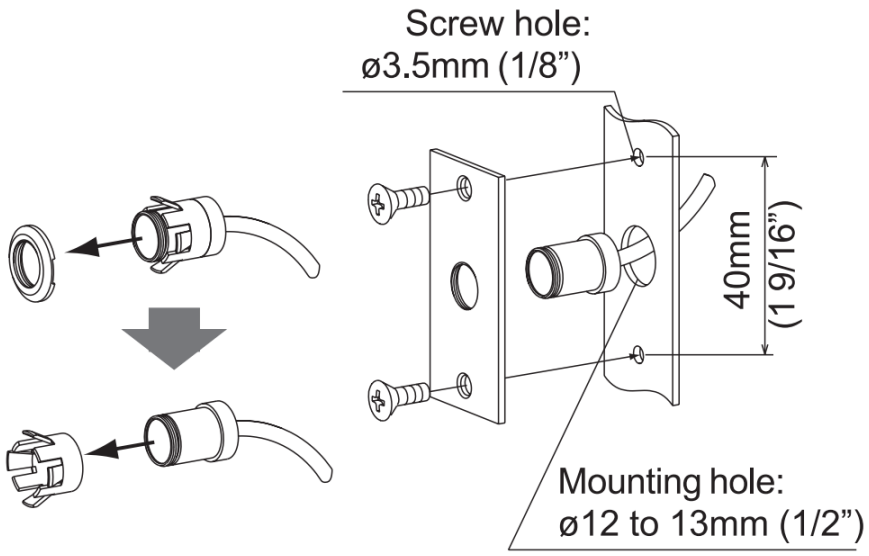


Plate installation type
Drill a mounting hole ø12 to 13mm (1/2″) and two screw hole ø3.5mm (1/2″) on the door jamb.
Remove one push plate and head holder from sensor head. Affix the main body to the plate. Screw the plate to the door jamb.



Installing the amplifier

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

On drilling the mounting holes

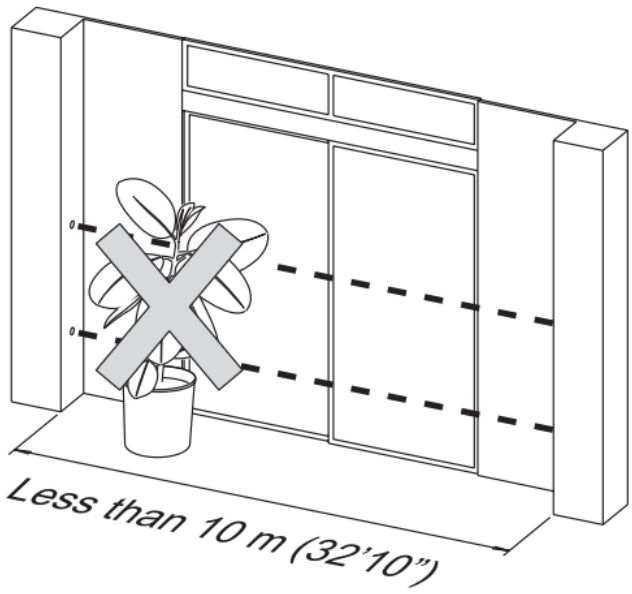
1. Be sure to drill holes so that the sensor heads faces each other.
2. After drilling the holes, remove the flashes around the holes. Otherwise, the apparatus may not operate properly as the Sensor head rides on the flashes causing tilts.

On setting of one push plate

Be sure to push the sensor heads in securely If the sensor heads 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.



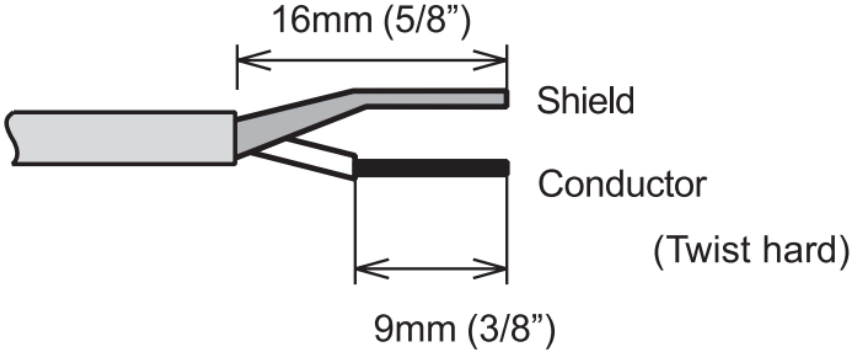
Distance between the Sensor heads

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.

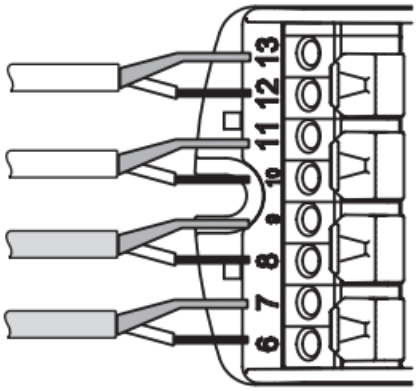
Wiring sensor heads

Cutting the wires

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



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



WARNING
Danger of electric shock.

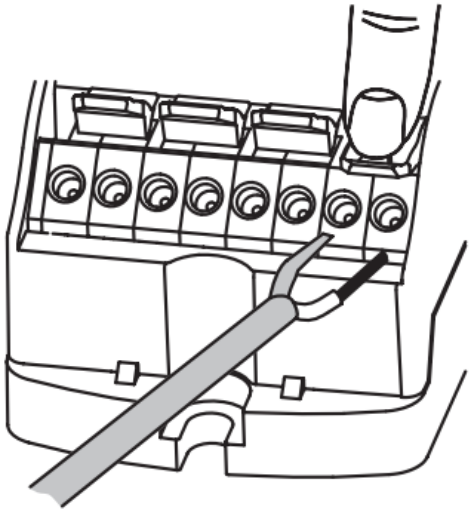
Before starting the procedure, be sure to turn OFF the power supply.

CAUTION
Risk of breaking the apparatus.

When cutting the wires, be sure to prepare the tip of the wires as shown on the left: If the covers of the shielding wires are peeled off too long, the adjacent tips can easily contact each other causing breakdown of the apparatus.

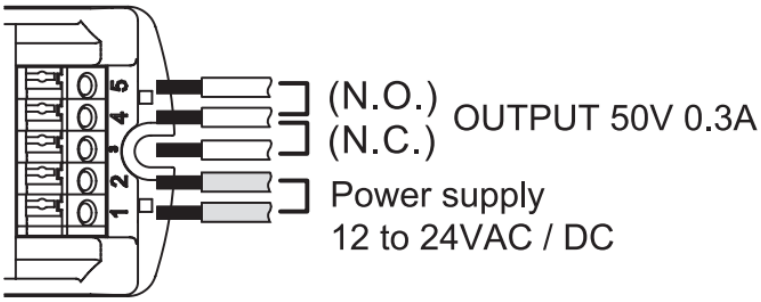
Insert the wires to Terminal block 6-13 as shown on the left.

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

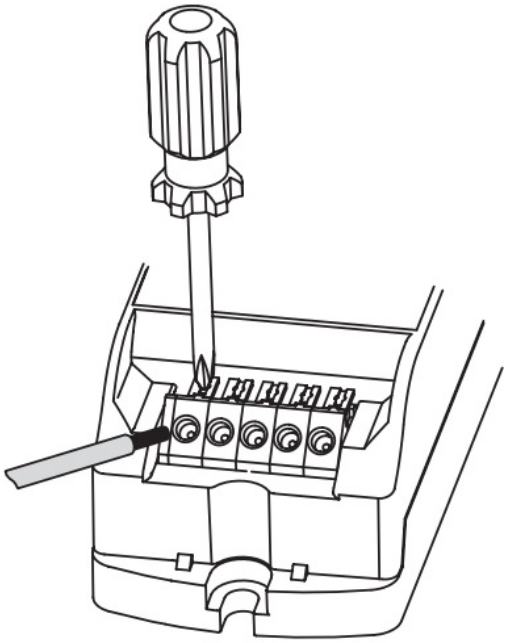


Connecting power supply wires and output signal wires

Insert the wires to Terminal Block 1-5 as shown below



Press the Wire Connection button of the power supply signal side and insert the wires. Be sure that all the wires are securely connected



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) 00.401.2mm (AWG26-18)
- Stranded (flexible) 0.3mm² -0.75mm² (AWG22-20)
  (Strand diameter shall be more than 0.18mm)

Warning about wiring
Do not connect more than one wire to one terminal.

ADJUSTMENT & CHECKING

Sensitivity adjustment

1. Press Sensitivity teach in button for more than one second. When the green and red LED blinking becomes green and red (no blinking), the setting is completed. The proper sensitivity is adjusted automatically.
2. Check the auto-set adjustment with the table below.

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 Sensor heads 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 sensor head**
  Be sure to press the Sensitivity teach in button. All sensor heads can be adjusted at once. The apparatus does not operate properly if Sensitivity teach in button is not pressed.
- **Re-setup of sensitivity**
  For the maintenance, press Sensitivity teach in button to readjust. The sensitivity is set automatically.

Checking the operation

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

Entry motion(Image)					
Operationindicator		OFF	ON(Green/Red)	OFF	ON(Green/Red)
Status		Power OFF*Failure of theapparatus	Stand-by statusNo person orobject existsbetween these nsor heads	While a personor object ispassing in theb eam path	After the traffichas passed, thestatus becomesstand-by.
Output	N.O.	CLOSE	OPEN	CLOSE	OPEN
	N.C.	OPEN	CLOSE	OPEN	CLOSE

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 shock may occur.
5. Contact your installer or the sales engineer if you want to change the settings.
6. Do not place an object that moves or emits light in the detection area. (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.
Operates by itself (Ghosting)	Inappropriate installation distance or condition	Check the installation distance and condition.
	Something swaying between the Sensor heads cutting off the beam.	Remove the obstruction.
	Dirty lens.	Remove the dirt.

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.

FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning:
This equipment has been tested and found to comply with the limits for a Class B device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment dose cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna,
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

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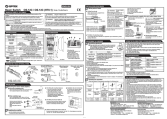
Documents / Resources

	OPTEX OS-12C Automatic Door Sensor [pdf] User Manual OS-12C Automatic Door Sensor, OS-12C, Automatic Door Sensor, Door Sensor, Sensor

References

- User Manual