

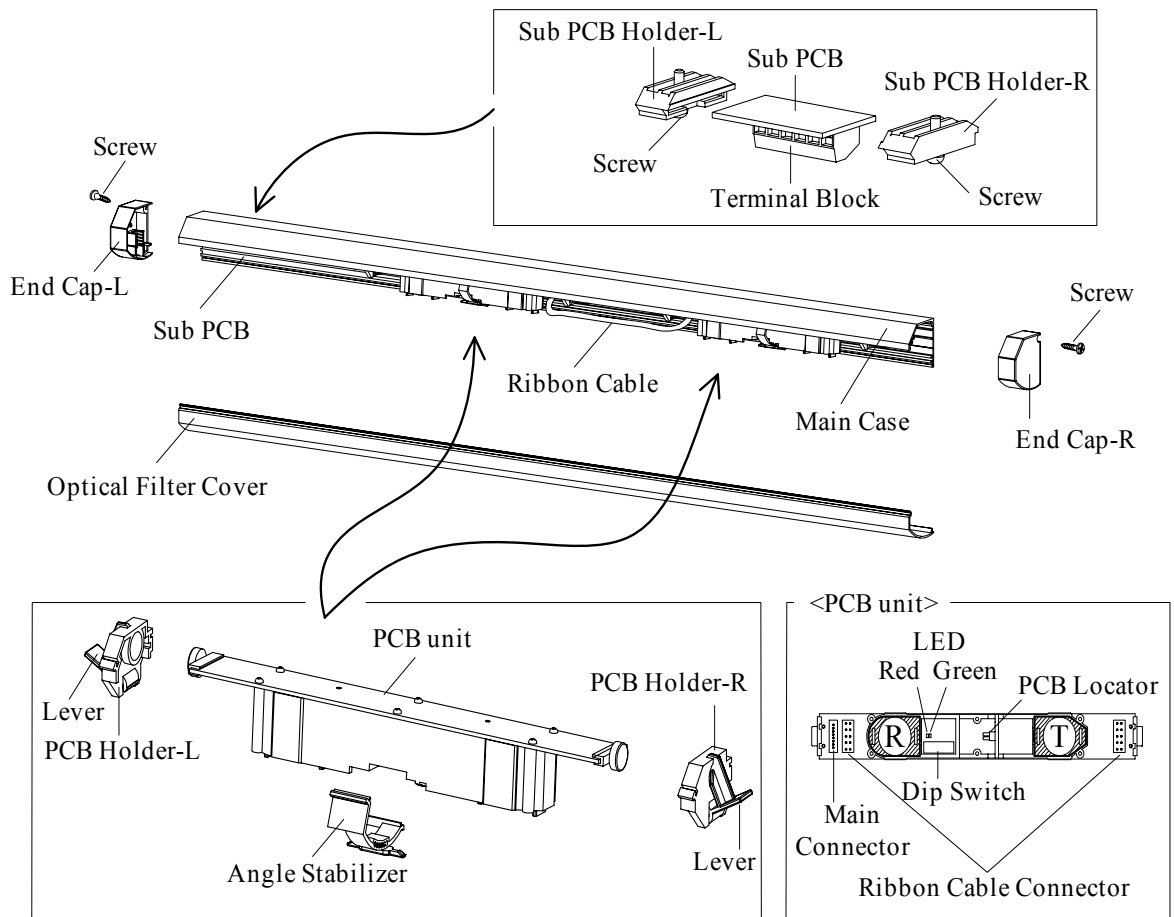
SSS-1

Instruction Manual



HOTRON


Components





Accessories





Cross Section

 Mounting Screws
4 × 16(mm)

 Main Cable
1.5m (5ft.)

 Jamb Hole Cover

 Wire Sheath
0.6m (2ft.)

 Mounting Screws
3 × 10(mm)

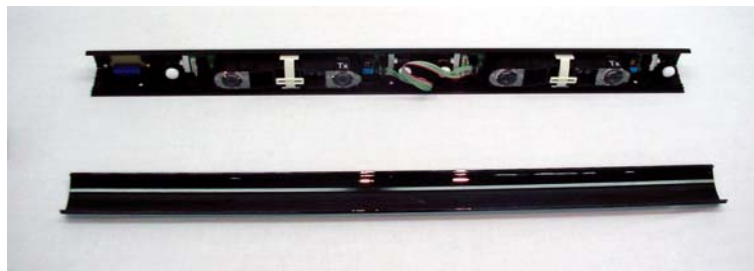
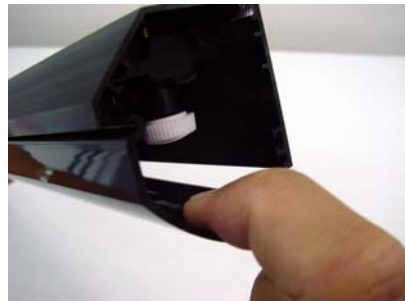
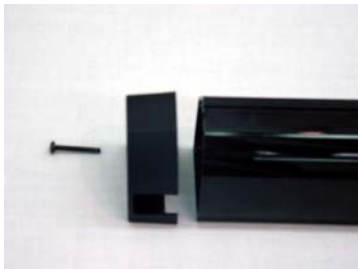
 Instruction Manual

Step 1 Installation Preparation

Removal of components from main case



1. Remove the screws on both side of the sensor.
2. Remove end caps and the Optical filter cover

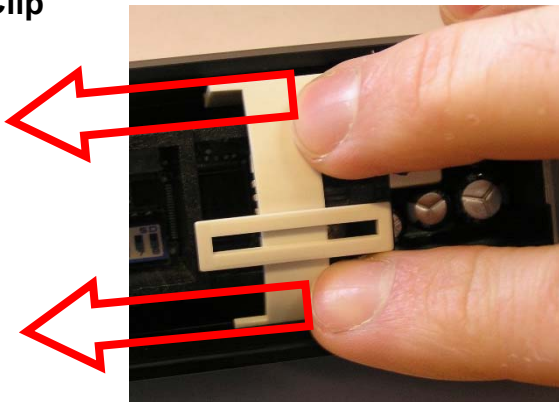
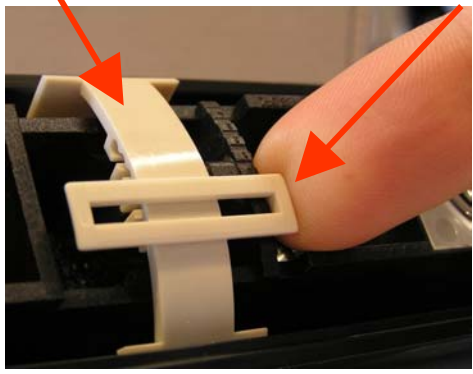


3. Remove Angle Stabilizer and Ribbon Cable

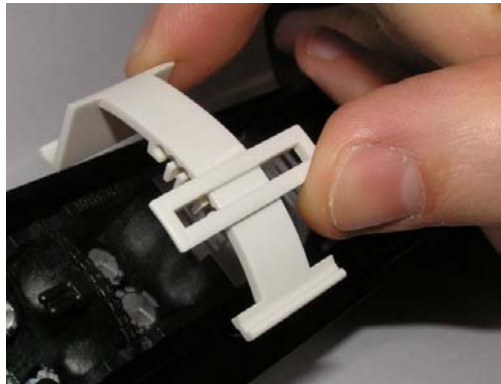
1) Gently raise the locking clip ① with forefinger and move to the side.

② Angle Stabilizer

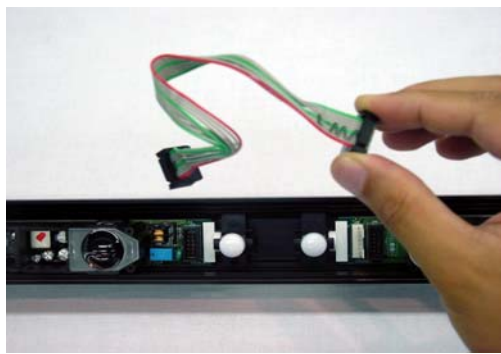
① Locking Clip



2) Release the narrow end of the Angle Stabilizer ② from the Main Case by pressing down and back at the same time. Then remove the angle stabilizer from the Main Case.

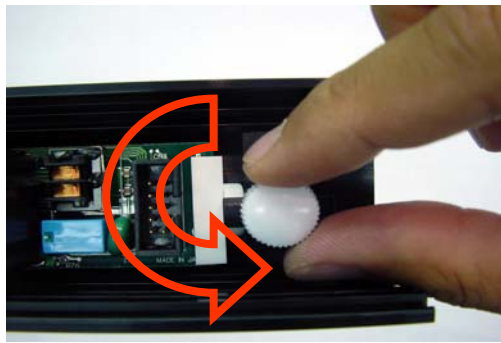


3) Remove the ribbon cable

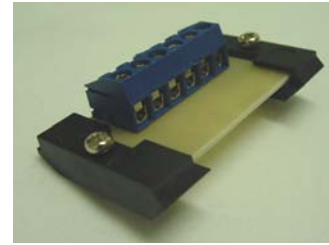


4. Take out PCB Units

- 1) Unscrew PCB Holders on both sides of the PCB Units.
- 2) Then slide PCB holders aside to remove the PCB unit.



5. Take out Terminal Block unit. SSS-1 S1 and L3 do not have Terminal Block unit.

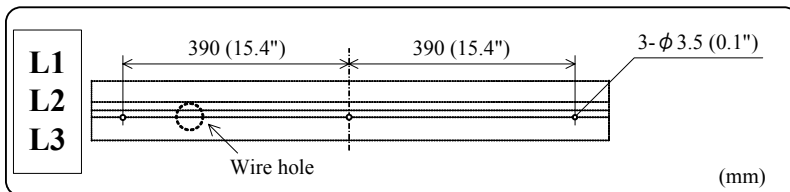
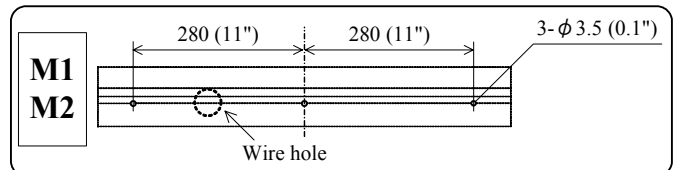
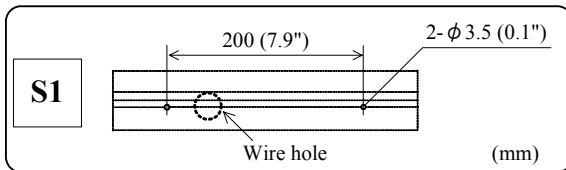
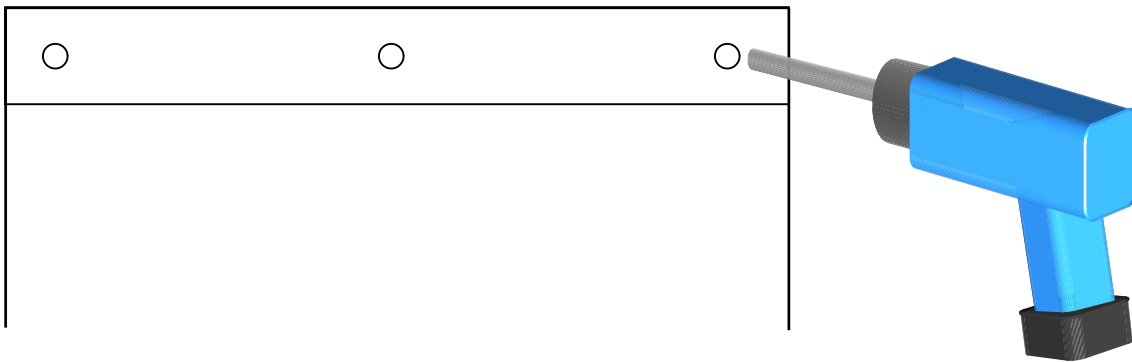


Terminal Block unit is used when connecting two SSS-1 sensors on both side of the door.

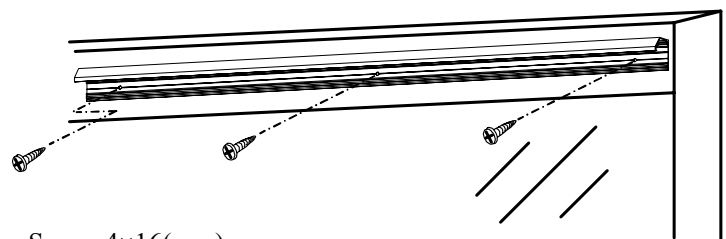
Step 2

Mouting the Main case to the door

Drill fixing holes in the door leaf. When using SSS-1 sensors on both sides of the door, open a wiring hole through the door to allow sensors on either side of the door to be connected.



Use two or three screws to fix SSS-1.



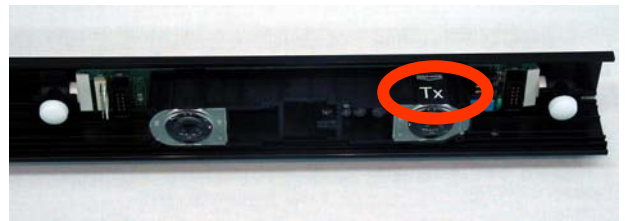
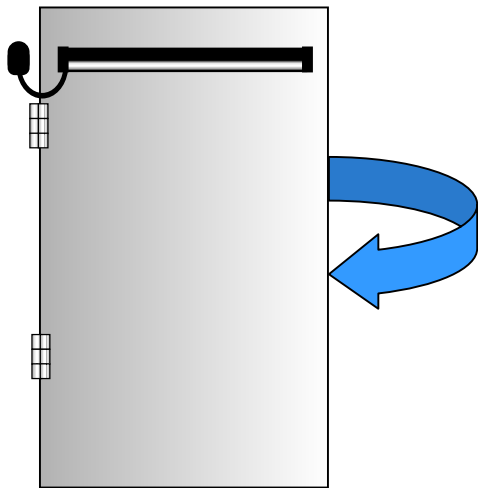
Screw 4×16(mm)

※SSS-1S1 needs only 2 screws.

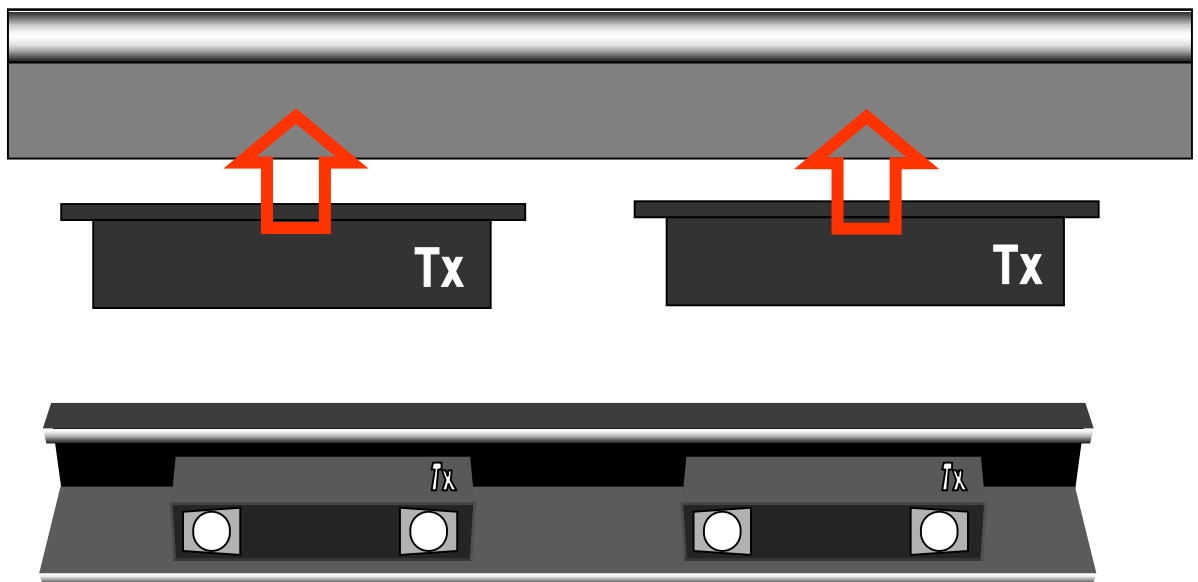
Step 3

Mounting Preparation For Right Edge Door

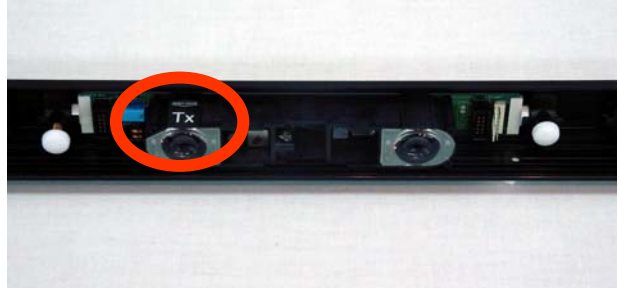
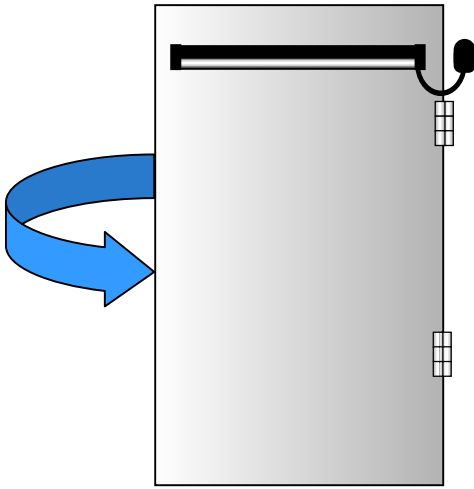
PCB unit direction should be changed to ensure that an object or a person close to the leading edge of the door is detected. The below figure shows default setting of the PCB unit. As shown, the default PCB position setting is for a door with the leading edge on the right hand side. If you want to use SSS-1 for a door with the leading edge on the left hand side then the PCB position needs to be reversed to ensure detection as close to the leading edge as possible.



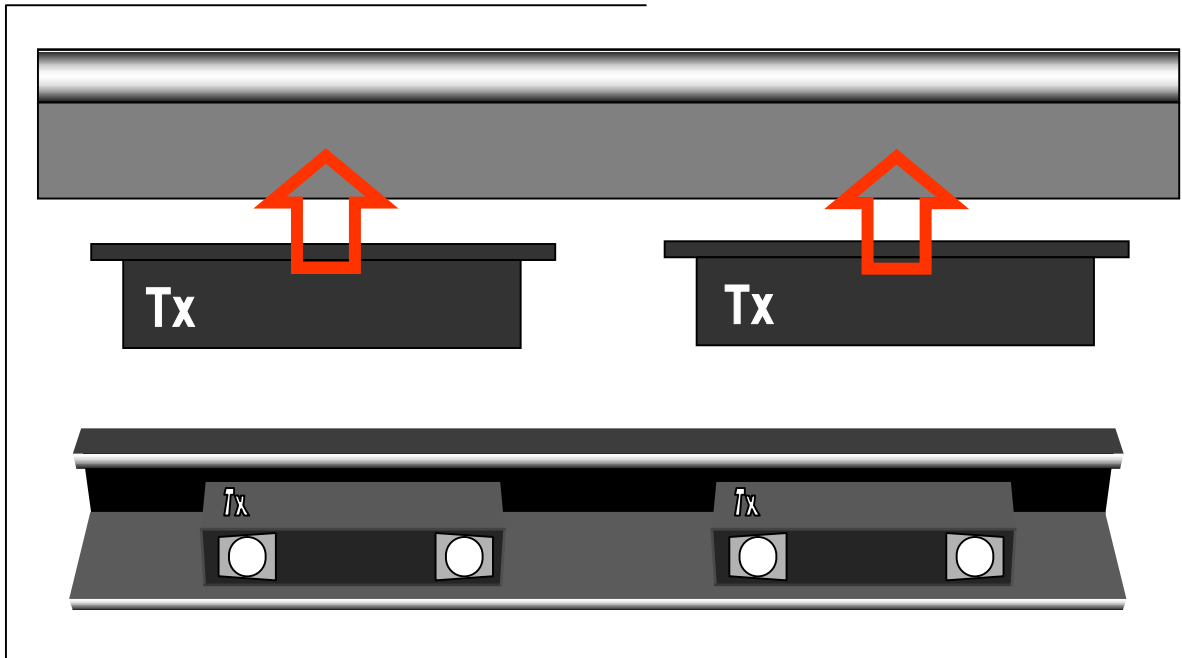
Door Edge



Mounting Preparation For Left Edge Door



Door Edge



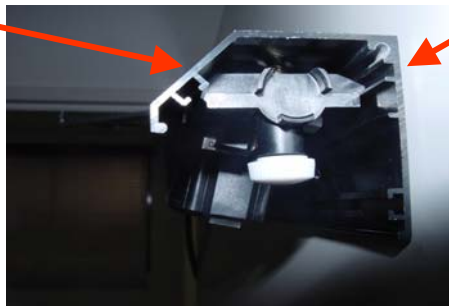
Step 4

Re-place the PCB Units

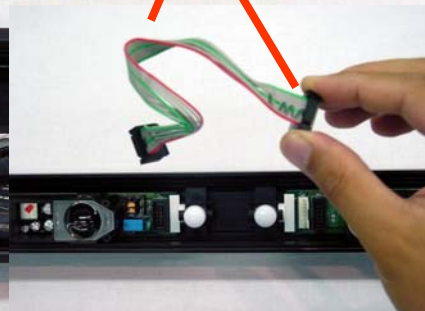
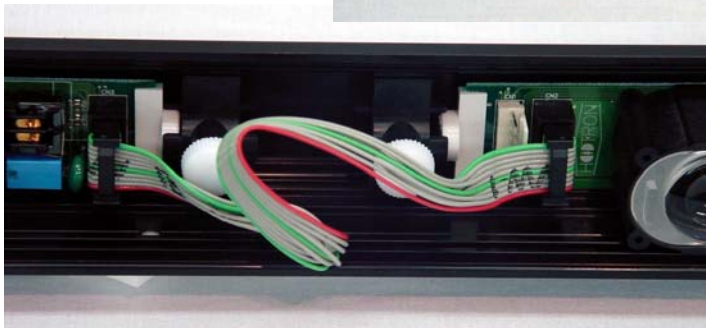
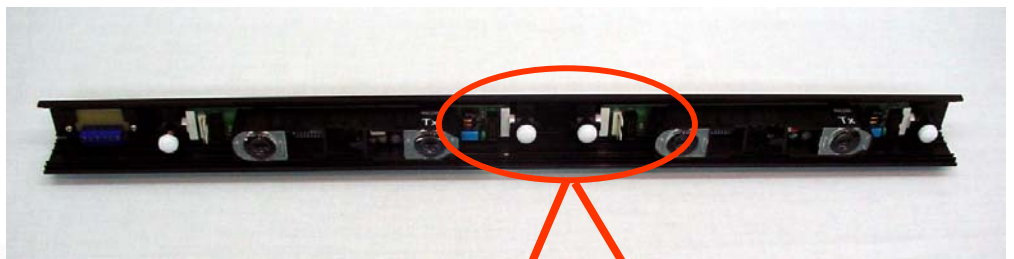
Re-place the PCB units and lock into position with the PCB holders. PCB holders should be inserted correctly into PCB holder rails. (Please refer to the photograph below) After correctly orientating the PCB units, connect adjacent units to each other using the ribbon cable provided. (Note: SSS-1S1, SSS-1M1 & SSS-1L1 do not require a ribbon cable)



PCB holder rail

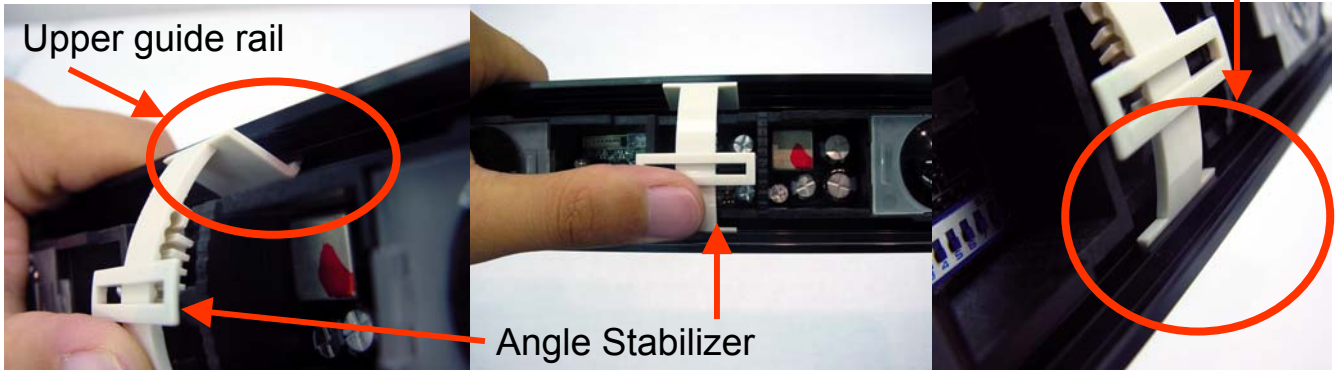


PCB holder rail



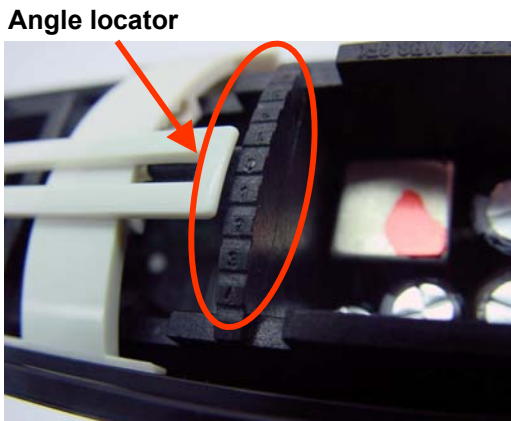
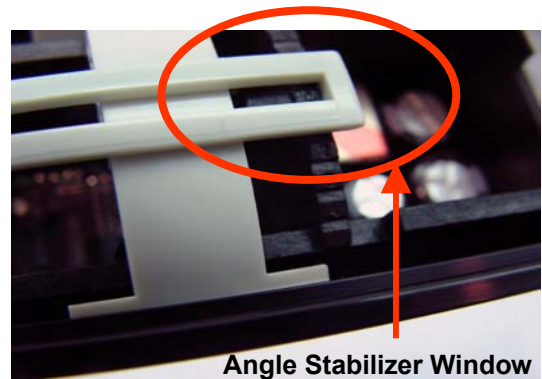
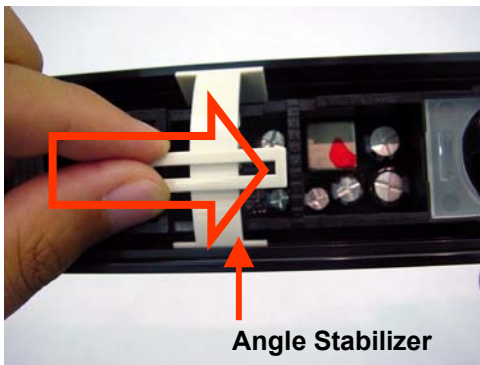
Step 5

Setting the Angle Stabilizer



1. Insert the wider end of Angle stabilizer into the Upper guide rail. Push in and down at the same time to fix the stabilizer into the lower guide rail as shown above.

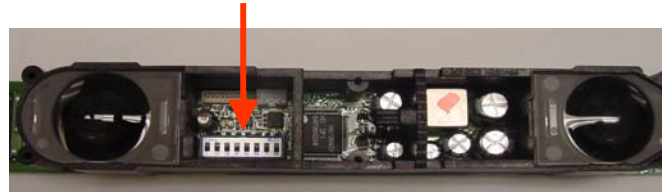
2. To set the detection angle, slide the Angle Stabilizer until the Angle Stabilizer Window lines up with a number on the Angle Locator representing the detection angle of your choice. (Note: 0 on the Angle Locator = 5deg, 1=10deg and so on) Push the Angle Stabilizer until the locator pins engage it and it locks into position.



4	=	25°	Angle Stabilizer in Locked in position
3	=	20°	
2	=	15°	
1	=	10°	
0	=	5°	

Step 6

Dip Switch Settings

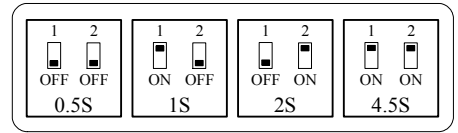
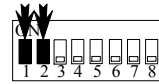


A Dip Switch Bank is mounted on the PCB unit as shown in the figure. Possible Dip Switch settings are explained below.

1. Relay Output Hold Time

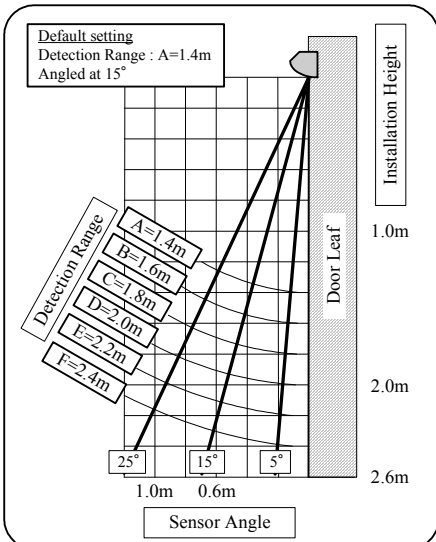
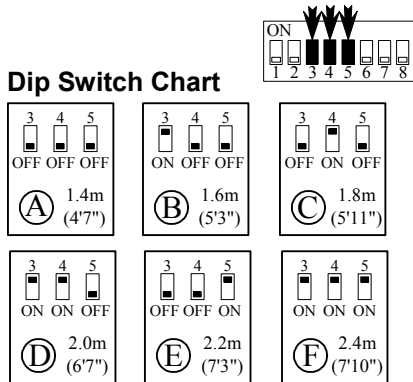
The first two switches are used to adjust the relay output hold time.

Ex. When 2S is selected, The relay will stay ON (Active State) for 2 seconds after an object or person leaves the detection area.



2. Detection Range

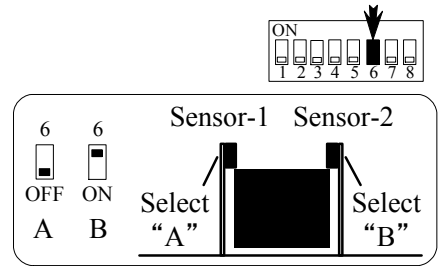
Detection range can be set easily using Dip Switches. Set the Detection range to approx. 0.4m from the floor surface by referring to the following chart. The detection range can vary depending on environmental conditions at the installation site.. Please check and adjust the settings on site.



Installation Height	PCB Angle	Dip Switch			Chart
		No.3	No.4	No.5	
up to 1.8m	5°	OFF	OFF	OFF	A
	10°	OFF	OFF	OFF	A
	15°	OFF	OFF	OFF	A
	20°	OFF	OFF	OFF	A
	25°	OFF	OFF	OFF	A
1.8m to 2.0m	5°	OFF	OFF	OFF	A
	10°	OFF	OFF	OFF	A
	15°	OFF	OFF	OFF	A
	20°	OFF	OFF	OFF	A
	25°	ON	OFF	OFF	B
2.0m to 2.2m	5°	ON	OFF	OFF	B
	10°	ON	OFF	OFF	B
	15°	ON	OFF	OFF	B
	20°	OFF	ON	OFF	C
	25°	OFF	ON	OFF	C
2.2m to 2.4m	5°	OFF	ON	OFF	C
	10°	OFF	ON	OFF	C
	15°	OFF	ON	OFF	C
	20°	ON	ON	OFF	D
	25°	ON	ON	OFF	D
2.4m to 2.6m	5°	ON	ON	OFF	D
	10°	OFF	OFF	ON	E
	15°	OFF	OFF	ON	E
	20°	OFF	OFF	ON	E
	25°	ON	ON	ON	F

3. Optical Interference

When two units of SSS-1 are in close proximity cross interference between sensors may result in mis-operation. Different frequency settings can be set using Dip Switch 6 to prevent this cross interference problem.



4. Reserved

Do Not Use. (Keep default setting "OFF")



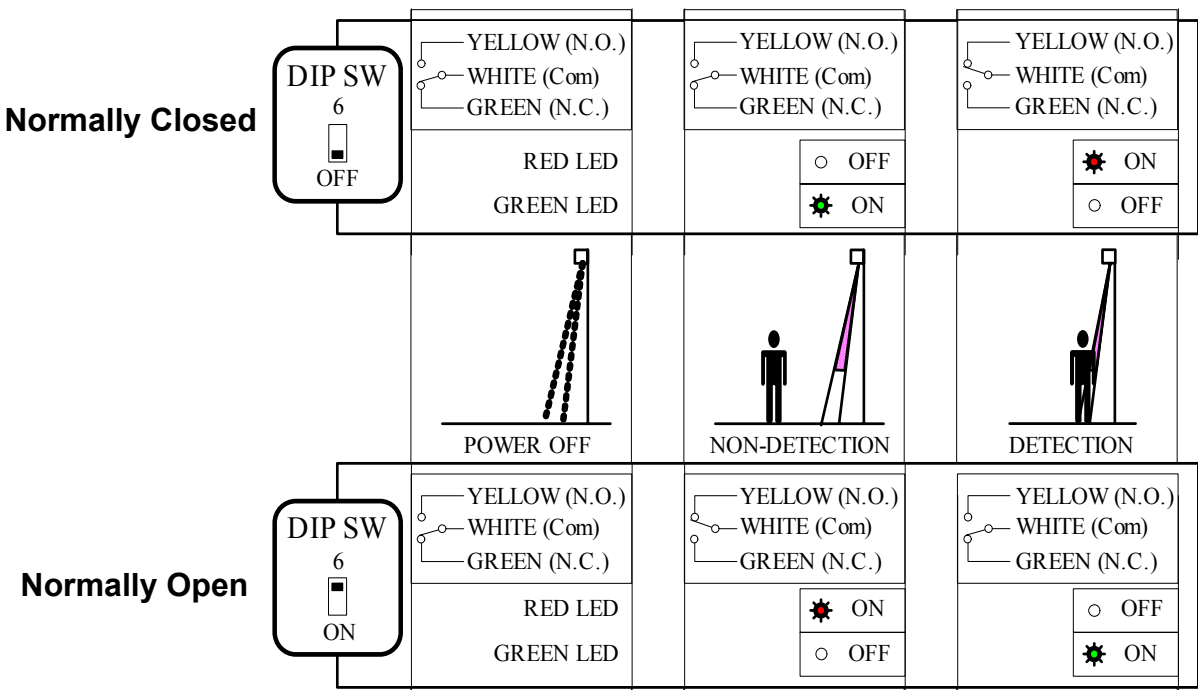
5. Relay Output Mode

When "OFF", Normally Open terminal will be closed on detection.



When "ON", Normally Open terminal will be kept closed after power on, until the sensor detects an object.

※For more detail, see Fig.8 "Relay output and LED state".

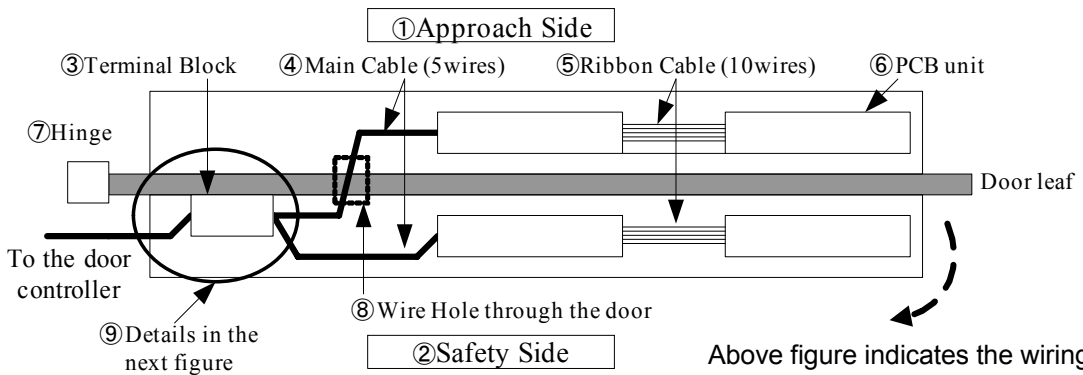


Step 7 Wiring Information

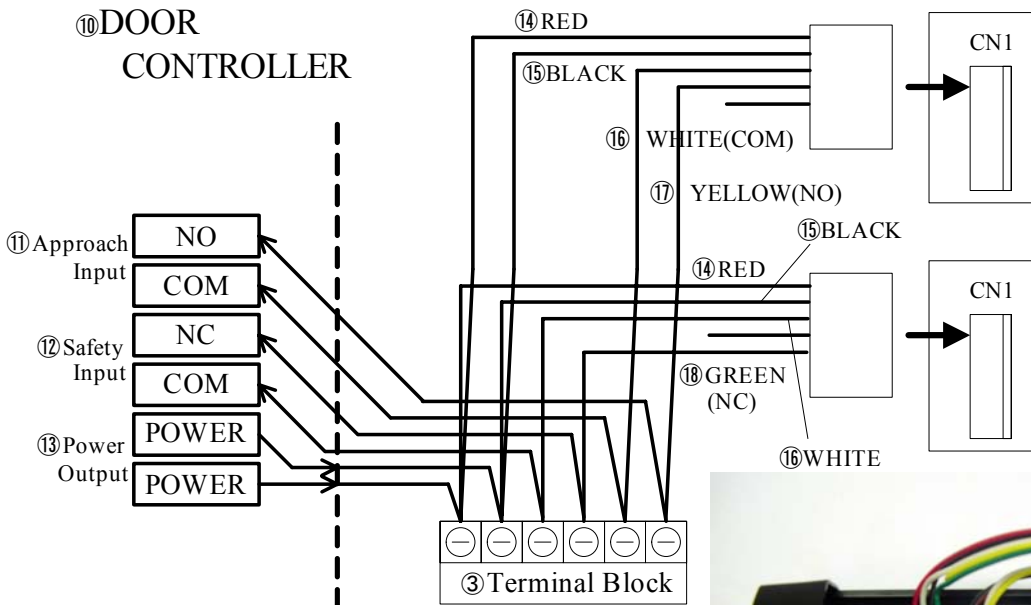
1. Wires in Main Cable are defined as described in table below.

RED	POWER SUPPLY
BLACK	(AC/DC 12~24[V])
WHITE	Relay Output (COM)
YELLOW	Relay Output (NO)
GREEN	Relay Output (NC)

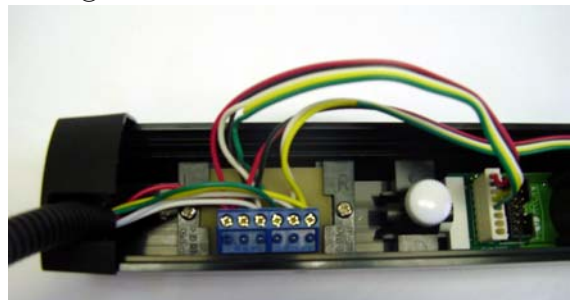
2. To connect Two SSS-1 sensors on both side of the door, please refer to the following Wiring information



Above figure indicates the wiring of two SSS-1 M2 or L2 connected to each other.



the terminal block can be removed from the sub PCB for ease of wiring

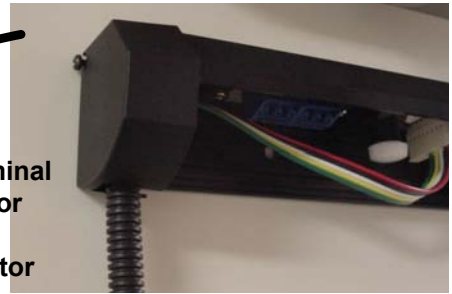
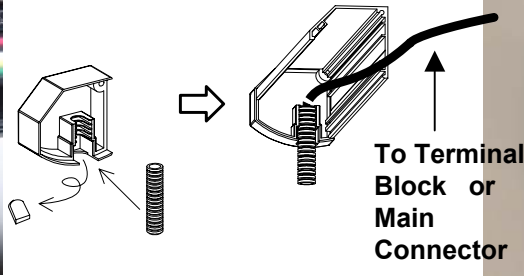


Step 8

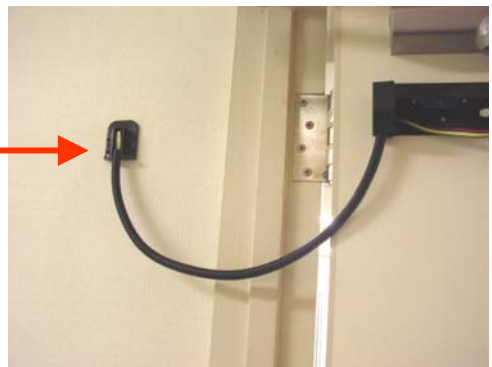
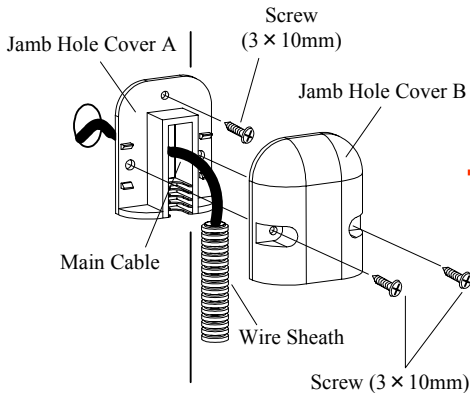
Installing the Hinge side End Cap and Door Jamb Hole Cover

1. End cap

Re-place Hinge side End cap first, and bring main cable outside through wire sheath as shown below.



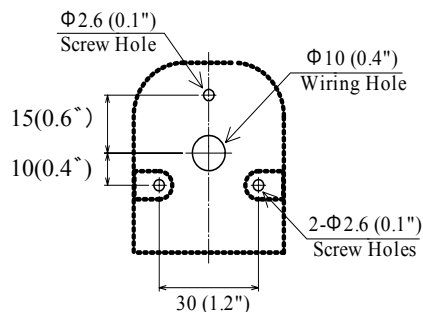
2. Door Jamb hole cover



The follows holes should be drilled for the Door Jamb Hole Cover.

1 wiring hole of $\phi 10$ (0.4") and 3 screw holes of $\phi 2.6$ (0.1") should be drilled.

The Wire Sheath will be fixed using Door Jamb Hole Cover A/B.



Step 9

Power ON Check

BEFORE APPLYING POWER,

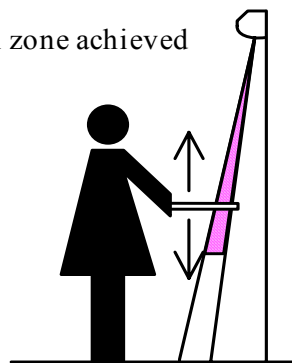
CHECK THE WIRING AGAIN AND FOLLOW THESE INSTRUCTIONS:

This "Power On Check" is to be executed without the Filter Cover installed.

- ① CLEAR THE AREA OF ANY UNNECESSARY OBJECTS.
- ② Apply POWER.
- ③ Put a test object in the detection area to verify that the actual detection zone achieved corresponds to that set up by the installer.

After the "Power on Check", Turn power off.

When Power On Check is successfully done, go to next section to set Filter Cover and End Cap. When errors are found during this check please check Wiring, Dip switch settings and Angle adjustment again.



Step 10

Re-placing the Optical Filter and Door edge side End cap



1. Hook the top end of the Optical Filter into the upper lip on the aluminum profile.
2. Push in the bottom end of the Optical Filter into the lower lip of the aluminum profile.
3. Slide the Optical Filter sideways until it fits into the hinge side end cap.



4. Slide your hand along the bottom of the Optical Filter to lock it into position over the full length of the sensor



5. Re-place the door edge side End cap.

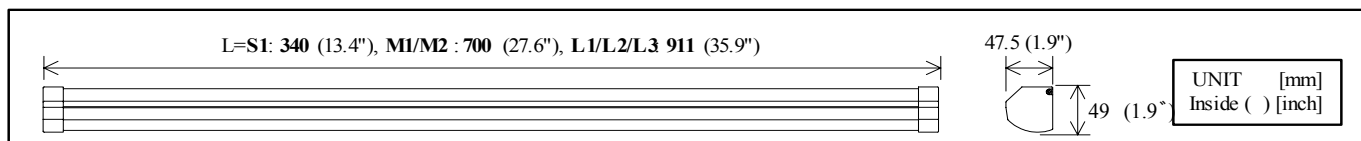


Technical Specifications

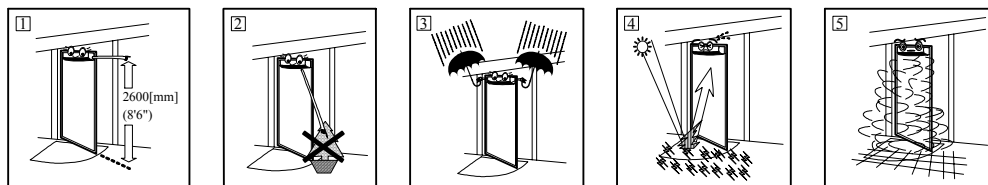
Technical Data

MODEL	SAFETY SENSOR for SWING DOORS
TECHNOLOGY	COMPLETE STATIONARY DETECTION with PSD DISTANCE MEASUREMENT
POWER SUPPLY	AC/DC 12~24[V] ±10%
CURRENT CONSUMPTION	1.1 [VA] with AC12 [V] 60 [mA] with DC12[V], 1.6 [VA] with AC24[V] 35 [mA] with DC24[V]
RELAY OUTPUT	DC 50V 0.1 [A] NON VOLTAGE IC
MOUNTING HEIGHT	2600 [mm] (8'6") Max
DETECTION RANGE	0 - 2.4 [m] (0- 7'10")
RANGE ADJUSTMENT	1400 (4'7"), 1600 (5'3"), 1800 (5'11"), 2000 (6'7"), 2200 (7'3"), 2400 (7'10")
BEAM ANGLE ADJUSTMENT	5, 10, 15, 20, 25 [degrees]
RESPONSE SPEED	LESS THAN 50 [mSec]
DELAY HOLD TIME	0.5, 1, 2, 4.5 [Sec]
INHIBIT INPUT	DC12-24 [V] ±10% ;INHIBITED WHEN VOLTAGE IS APPLIED
DIP SW FUNCTIONS	RELAY HOLD TIME : 2 [BIT], DETECTION RANGE : 3 [BIT], OPTICAL INTERFERENCE : 1 [BIT],RELAY OUTPUT MODE : 1 [BIT]
OPERATING TEMPERATURE	-20 ~+60 [°C] -4~+140 [°F]
WEIGHT	S1 340 g approx. M1 580 g approx. M2 700 g approx. L1 710 g approx. L2 830 g approx. L3 920 g approx.

External Dimensions



Mounting Notice



- 1 Do not mount higher than 2.6[m] (8' 6").
- 2 Do not put any objects which may move in the detection pattern.
- 3 Do not mount where rain or snow will fall directly on unit.
- 4 Do not mount in a place where reflection of sunlight will shine on unit.
- 5 Do not mount in a humid or steamy environment.



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