Installation Manual
ATSUMI® IR1110 EXA Passive Infrared Detector

We thank you for purchasing ATSUMI passive infrared detector. Please read this installation manual carefully for appropriate use of the product.

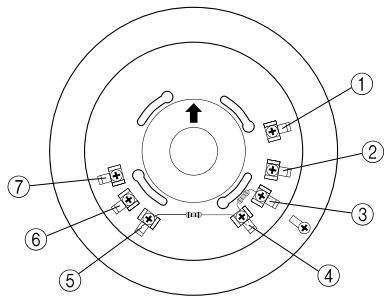
1 SPECIFICATIONS

-Power Supply: 9 - 28VDC(non-polarized)
-Current Draw: 25mA Max.
-Coverage: Wide angle, 14m max. range
15 zone pairs, 30 fingers
-Operating Temperature and Humidity: -20°C to +50°C,
RH95% or less, non-condensing
-Alarm Contacts: Form 1a(N.O.)/1b(N.C.)selectable
semiconductor relay 0.1A@30VDC
-Tamper Contacts: Form 1b(N.C.) 0.1A@30VDC
-LED Indication:
Alarm LED (red): blinks when power is first supplied.
Alarm LED (red): lights when alam is triggered.
Alarm LED (red): blinks when Self Diagnosis is activated.
-Mirror Angle Adjustment: 30° vertically
-Weight: 190g
-Components: 2 x mounting screws

2 INSTALLATION CONSIDERATIONS

-DO NOT install outdoors.
-DO NOT install in the areas where sudden temperature fluctuation is expected.
-AVOID partitions, furniture and glass within coverage.
-AVOID intense shock or vibration.
-AVOID intense electrical or electromagnetic noise.
-AVOID magnetic material.
-AVOID corrosive gas and dust.
-AVOID direct exposure to sunlight and intense light.
-AVOID vapor or high humidity that can cause condensation.
-Install within 2.5 - 5.0m height from floor.
-Install and set up the unit so that intruders will cross field of view.
-Catch performance is based on the temperature difference between a moving object and a stable background. The greater the difference, the longer the actual coverage.

3 TERMINALS



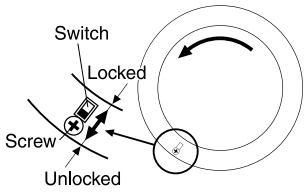
Terminals	Functions
①②Power Input	9-28VDC, Non polarity
③④Alarm Output	Form 1b(N.C.),Form 1a(N.O.)selectable This contact opens when power is not supplied regardless of switch settings.
⑤⑥Tamper Output	Form 1b(N.C.)contacts open when body unit is detached from the base. This works regardless of the power supply conditions.
⑦Spare	No connection inside

■Two 10kΩ resistors are attached to terminals initially. These parts achieve four state monitoring (normal, alarm-output, tamper-output and short-circuit)by two wires. But the exclusive panel is necessary for this system. Remove these parts for normal use.

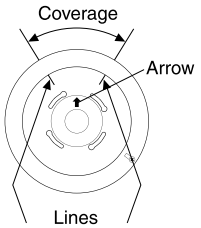
4 MOUNTING

- Select a location likely to intercept an intruder moving across the coverage pattern. Make sure the surface is solid and vibration free.

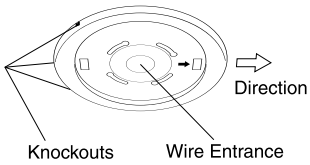
(1) Loosen the screw on the base, unlock the switch and turn the body unit counterclockwise to remove from the base.



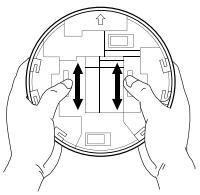
(2) Position the base with the printed arrows pointing in the direction of the desired coverage.



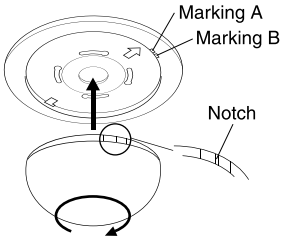
(3) Mount the base to the ceiling using the 2 mounting screws. Refer to the label on the base to wire the unit.



(4) Adjust the coverage and do the initial setting. Refer to the item 5 and 6 for details.

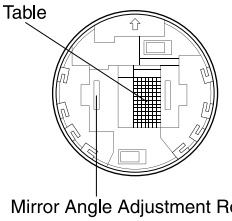


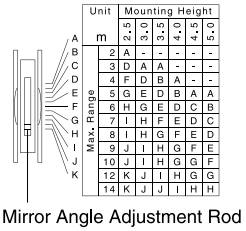
(5) Mount the body unit into the base.



(6) Test the unit by walk test. After the walk test, lock the switch to firmly fix on the base and tighten the screw on the base.

5 COVERAGE SETUP

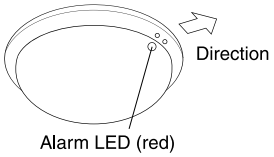




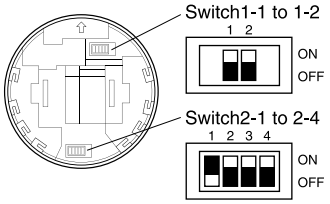
If the ceiling is 3m high and the desired coverage is up to 7m, set the mirror angle adjustment rod at H position.

6 INITIAL SETUP

Switch 1-1 Alarm LED
ON: Alarm LED lights when the unit triggers an alarm.
OFF: Alarm LED never lights.
Regardless of switch settings, Alarm LED blinks during warm-up period (1 min.)and Self Diagnosis.



Switch 1-2 Relay
ON: Form 1b(N.C.), relay opens when an alarm is triggered.
OFF: Form 1a(N.O.), relay closes when an alarm is triggered.



Switch2-1,2-2 Sensitivity

Switch2-1	Switch2-2	Sensitivity
ON	ON	120%
OFF	ON	100%
ON	OFF	80%
OFF	OFF	60%

Switch2-3,2-4 Pulse Counts

The unit triggers an alarm when the pulse counts detected, in 10 seconds interval, reach the number of pulses selected. The count is reset 10 seconds after the last pulse.

Switch2-3	Switch2-4	Counts
ON	ON	1
OFF	ON	2
ON	OFF	3
OFF	OFF	4

7 SPECIAL FEATURES

7.1 Pulse Count

Selection: Choose the pulse count with switches 2-3 and 2-4.

Functions: The unit counts pulses, in an interval of 10 seconds or less, and it triggers an alarm when the count reaches the number of pulses set. The count is reset 10 seconds after the last pulse. As a guide a pulse count of 1 would only be selected in very stable environments when rapid response is required and a pulse count of 4 would be selected for harsh environments.

7.2 Self Diagnosis

Automatically detects malfunction of the unit.

Selection: This function is active at all times regardless of switch settings.

Functions: If the alarm LED continues to blink after the one (1) minute warm-up period, a malfunction with either the pyro sensor or the amplifier has been detected and the unit needs to be replaced. In this fault condition the alarm output will be operated.

8 WIRING

Caution: Only apply power after all connections have been made and inspected.

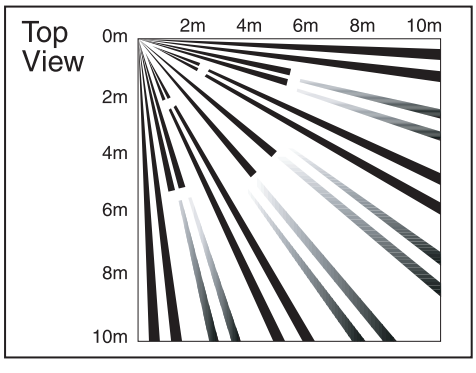
-Use the following table to determine the minimum gauge wire needed per length of a wire run between the power source and the last unit on the run. The table is based on one detector connected to a wire run from the power source.

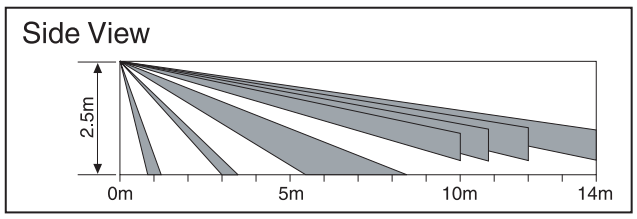
-The table is based on the use of a 12VDC power source.

WIRE GAUGE	MAXIMUM LENGTH
0.3mm² or AWG22	700m
0.5mm² or AWG20	1,200m
0.75mm² or AWG18	1,800m

Note: When two or more sets are added to a wire run, the maximum length per gauge decreases and is determined by dividing the length by the number of sets on a wire run.

9 COVERAGE





10 TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
No alarm Alarm LED never lights	No Power Damaged wires Improper connection Insulation problem	Turn the power ON Change wires Tighten screws for connection
	Object in the coverage	Remove the object Readjust the coverage
	Alarm LED is OFF	Turn the switch 1-1 ON
The unit detects only occasionally	The intruder does not cross the detector's field of view.	Readjust the coverage so that the intruder crosses the field of view
False Alarms	Installed too close to the source of electromagnetic noise or wired too close to power source	Relocate the unit Reroute wiring
	Sudden temperature fluctuation Exposed to direct sunlight or headlight	Remove the heat source Readjust the coverage Block the light with blinds.
	The body unit is not fixed on the base	Fix it firmly on the base
Alarm LED lights but no alarm output	The controller is not armed	Arm the controller
	Damaged wires Improper connection Insulation problem	Check with a tester Tighten screws for connection
When Form 1b(N.C.)is used	Alarm output is connected in parallel with other detectors' outputs	Connect in series with the other detectors' output Wire only 1 unit per loop
Alarm LED blinks (1 per second)	Self diagnosis is activated due to mechanical failure	Replace the detector
Relays operate in reverse	The relay setting is in reverse	Reset the switch 1-2

11 OTHER INFORMATION

-At least once a year, perform walk testing to verify operation.
-The specifications are subject to change without prior notice.
-This unit is designed to detect movement of an intruder and activate an alarm control panel. Being only a part of a complete system, we cannot accept responsibility for any damages or other consequences resulting from an intrusion.

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