

S-1

UWB Intrusion Detection Sensor

URS-0030

User's Manual

Written By

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CAUTION!!

- **This equipment may only be operated Indoors.**
- **Do not use to Outdoors.**
- **Do not intentionally install aimed at windows or outside opening doors.**



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Introduction

The UWB(Ultra Wide Band) sensors refers to a kind of radar technology that was traditionally used in military applications. When used as a security means, it's low power, wide band characteristics often causes frequent false alarms. Overcoming such limitations with its excellence in technology, S1 showcases the first ever UWB-based security sensor in the world. Its radar-based principle makes it inherently immune to heat source-induced false alarms and enables high level of sensitivity to the movement of heat-insulated intruders. Coverage can be flexibly adjusted to enable its deployment in various environments.

This document describes the features and the specifications of the UWB sensor, important regulatory information concerning its use, and details on how to diagnose potential problems.

Information to the User

The UWB sensor is an ultra-wideband(UWB) wireless device certified under FCC Part 15.517. It's use is subject to technical requirements for indoor UWB systems, in particular the stipulation that the devices must only be used indoors. Users should note carefully the following information:

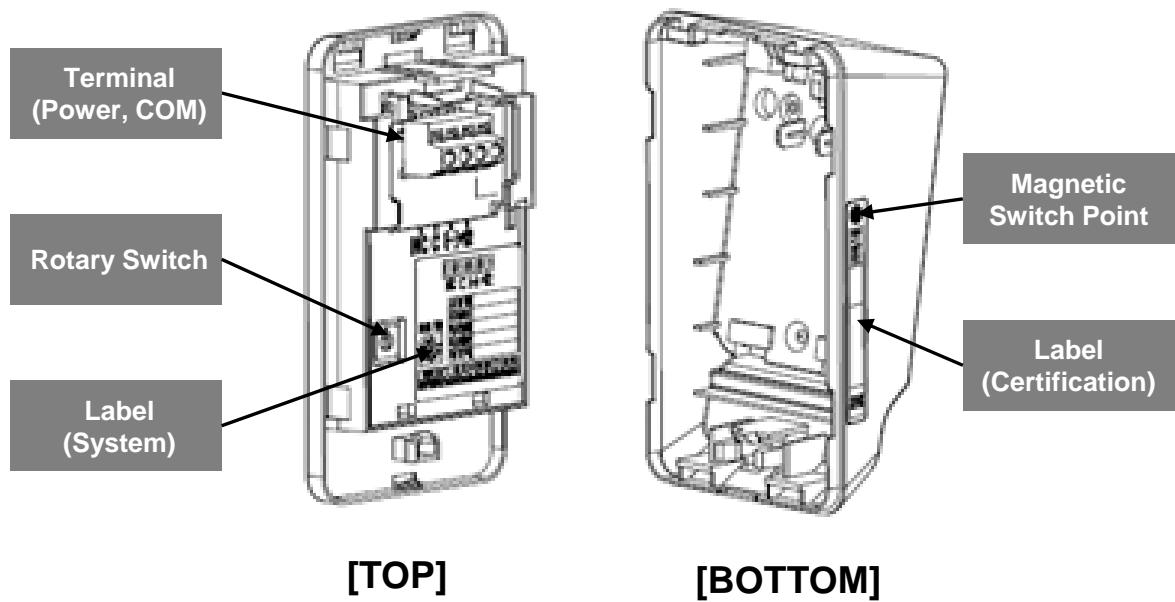
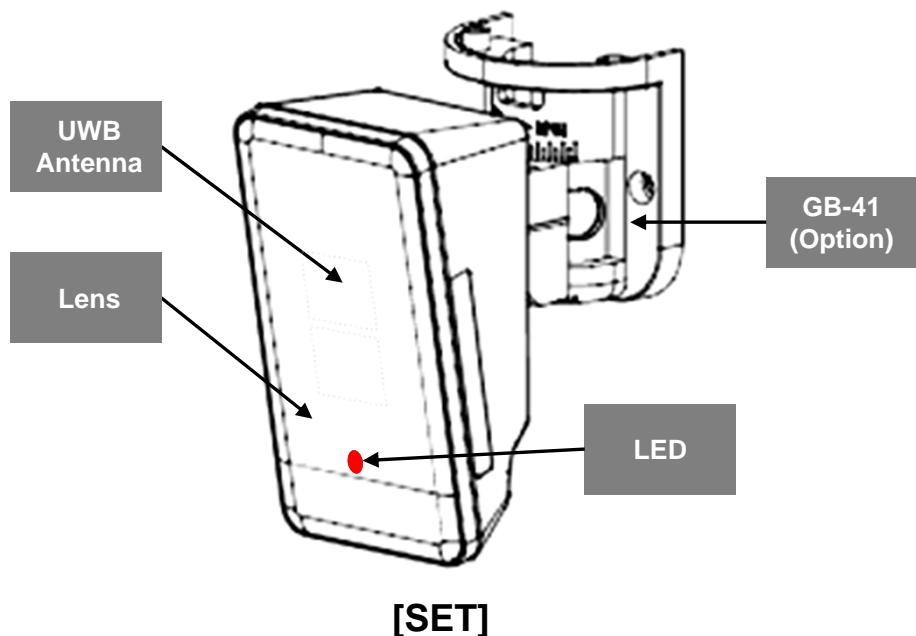
- CAUTION: This equipment may only be operated indoors. Operation outdoors is in violation of 47 U.S.C. 301 and could subject the operator to serious penalties.
- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Users should also carefully note the following information:

- CAUTION: Any changes or modifications made to the "UWB Sensor" which are not expressly approved by the "S-1" could void the user's authority to operate the equipment.
- NOTE: This equipment has been tested and found to comply with the limits for a Class B digital 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 does 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.

Features of the UWB Sensor

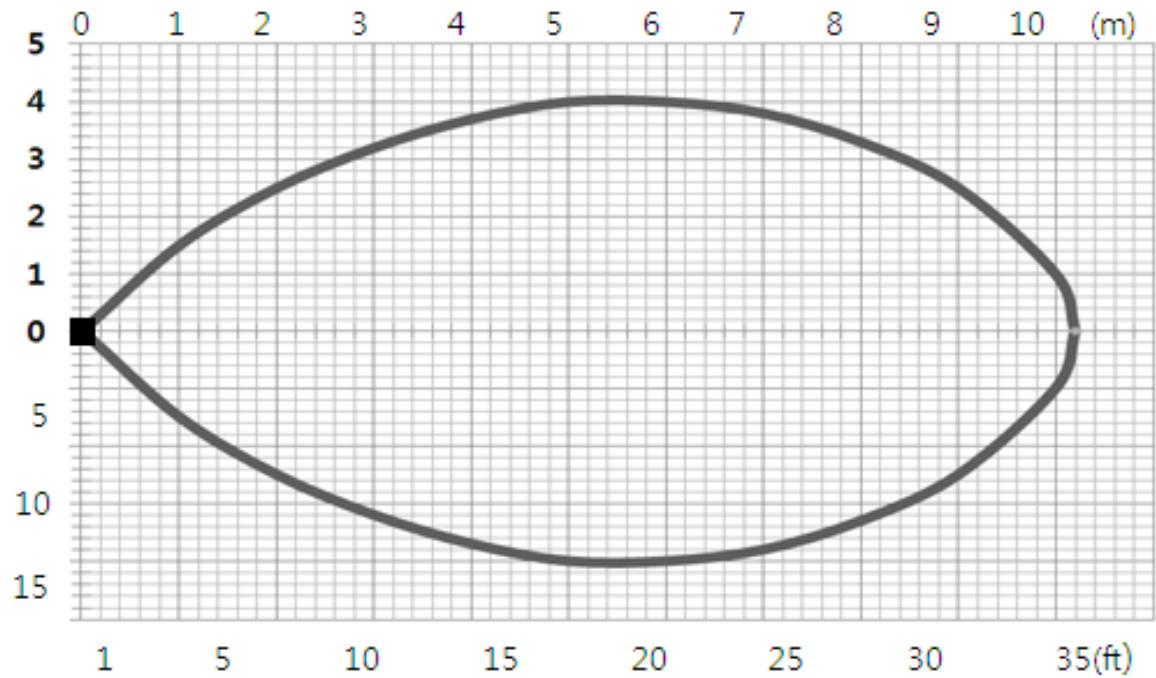
The diagram below shows several important features of the UWB Sensor:



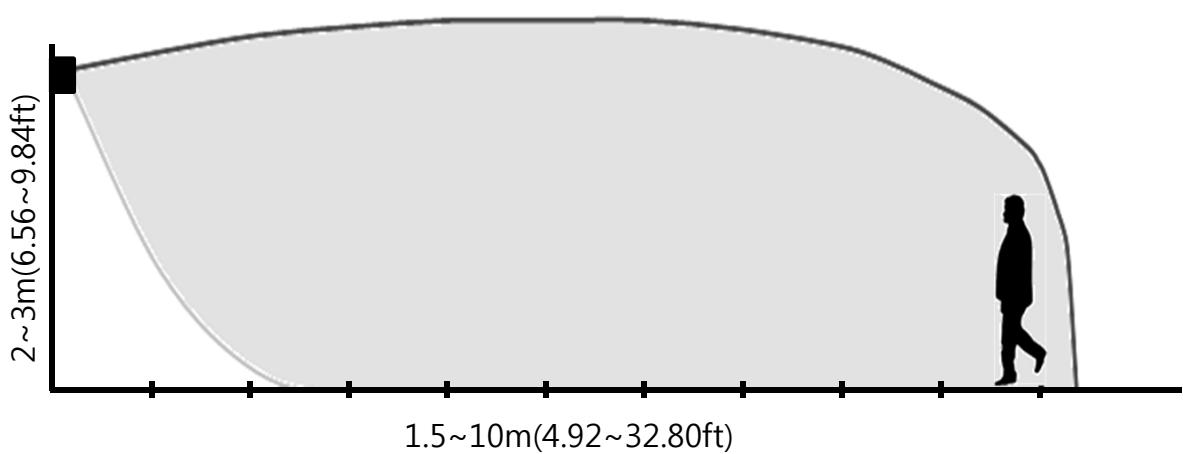
Coverage of the UWB Sensor

Maximum detection area of the sensor is as follows:

Horizontal View



Vertical View



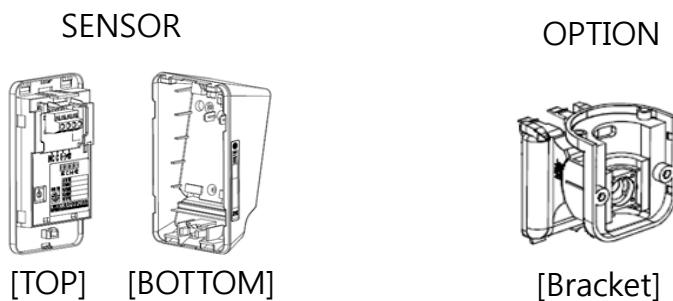
UWB Sensor Specifications

The specification of the sensor refer to the following table:

Model	URS-0030	
Colors	URS-0030W : White	URS-0030A : Black
Detection Method	Impulse Radio(Ultra Wide Band)	
Coverage	Wide: 8m x 10m(26.24 x 32.80ft), 80° Wide	
Mounting Height	2.0 ~ 3.0m(6.5 ~ 10ft)	
Detection Speed	0.3 ~ 1.5m/sec.(1 ~ 5ft/sec.)	
LED Alarm Indicator	On	
Alarm Period	Approx. 2 sec.	
Alarm Output	N.C, 12VDC, 0.3A max.	
Warm-up Period	Approx. 60 sec.	
Power Supply	12VDC(9.6 ~ 14.4VDC)	
Current Consumption	30mA (max.) at 12VDC(9.6 ~ 14.4VDC)	
Weight	85g(2.99oz)	
RF Parameters	Output Power	≤ -41.3dBm
	Frequency	8.5 ~ 9.5GHz
	Band Width	≥ 500MHz at -10dB
	Antenna Type	Patch type
Relay Parameters	Form	From-B (Normal Close)
	Type	Photo-MOS
	Rate	60VDC, 0.1A max.
Operating Temperature		-10 °C ~ +50 °C(+14 °F ~ +122 °F)
Operating Humidity		95% max.

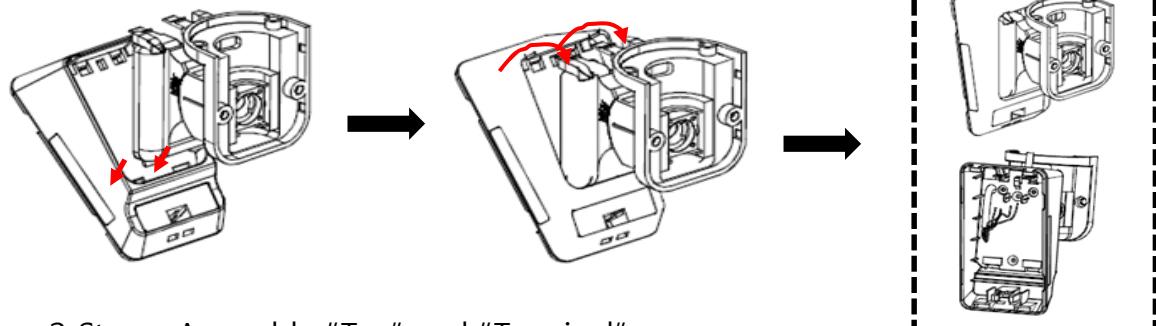
Configuration and Installation

The configuration of the sensor are as follows:

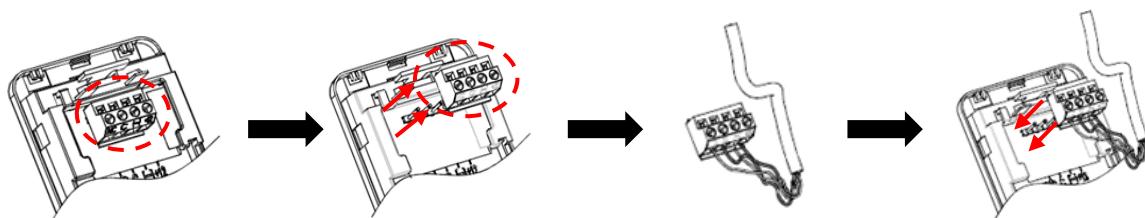


Assembly process are as follows:

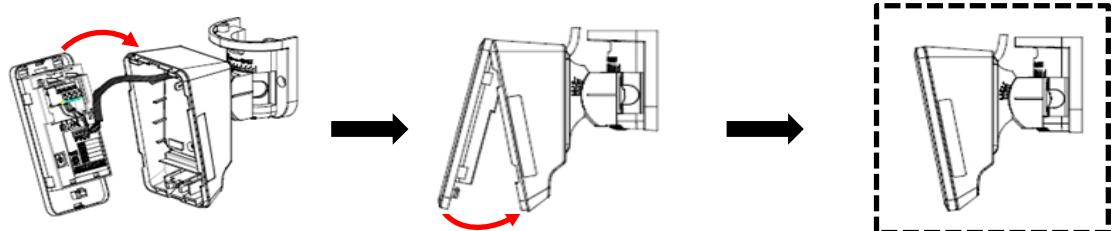
1 Step - Assemble "Bottom" and "GB-41"



2 Step - Assemble "Top" and "Terminal"

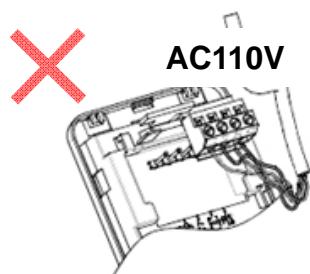


3 Step - Assemble "Top" and "Bottom"

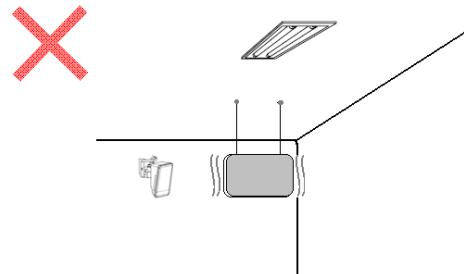


Operational precautions

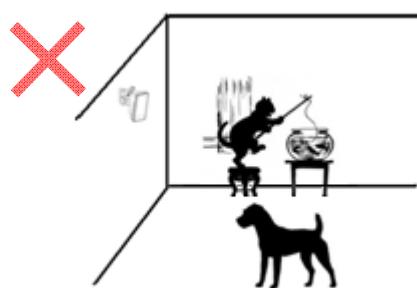
- Do not apply voltages higher than the rated voltage.



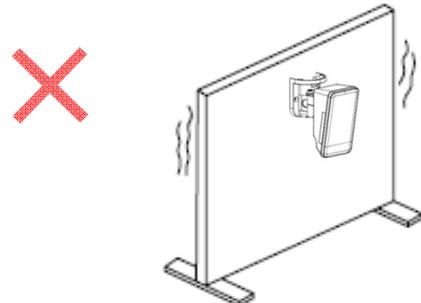
- When swaying objects(mobiles or metal material), in the detection area, change the direction or adjust the detection distance.



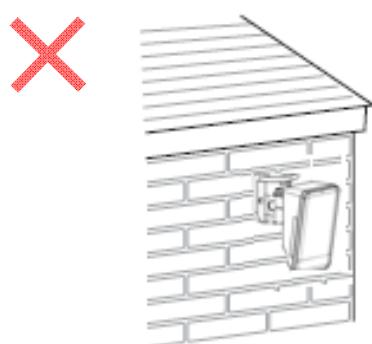
- Do not install where pet dogs and cats.



- Do not install in the swaying wall.



- Do not install the outdoor.



- Do not install the curtain(blind) by the external wind swaying.

