ECO.NO	ZONE	DETAILS	DESIGN	DATE
S19004		删除“Printed in China”		2019-4-19

Notes:

1. Material: 80g printing paper, white.size 290*210MM.
2. Printing: Black
3. Pack and tie a label with part number 0-ML00-0069-01-1.

DIMENSION TOLERANCES UNLESS OTHERWISE SPECIFIED

>0.0AND≤5	+/-0.055mm
>5AND≤10	+/-0.060mm
>10AND≤25	+/-0.075mm
>25AND≤50	+/-0.100mm
>50AND≤100	+/-0.150mm
>100AND≤150	+/-0.200mm
>150	+/-0.250mm
Angular	+/-0.25°

青嵘科技有限公司
A&R Technologies Ltd.

CLIENT			PART NAME		英文版说明书		
MOULD NO	SX-915AM		PART NO		0-ML00-0069-01-1		
MATERIAL		REV	5	DESIGN	范绮玲	DATE	2019-5-6
SIZE	/	SCALE	/	CHECK		DATE	
SHEET		UNIT	mm	APPROVAL		DATE	

SX-915AM™ Motion Sensor

Operation and Specifications

SUREN

The SX-915AM is a professional state-of-the-art motion sensor engineered with the world's best components and materials. Every aspect of this sensor provides the most reliable motion sensing with freedom from false alarms. The SX-915AM includes two motion sensing systems: microwave Doppler motion sensing and PIR motion sensing. Together, the two systems' signals are evaluated by SUREN-proprietary signal processing algorithms, which reject false alarm conditions while detecting intruders.

The SX-915AM microwave system includes a modern, compact, DRO-based micro-strip Doppler transceiver, with PCB ″patch″ antennas. The Doppler signal is digitally processed to detect intruders and reject distractions. Constant-motion signals (such as fans) are de-emphasized, and fluorescent light frequencies are digitally removed. On the PIR side, It adopts the Infrared Digital Motion detector, the PIR sensor with high accuracy, intelligent digital chip, make an accurate judgment of true intruder or other interference that can avoid various kinds of false alarms under worse environment. provides much stronger intrusion signals than conventional detectors, thus providing an information-rich signal to the microcontroller. Inside the microcontroller, X-TEC™ digital processing finds intruder signals among the complex curves and dips of real-world signal waveforms.

ANTI-MASKING OPERATION (SW4=ON)

If the sensor is covered or blocked by an object for more than 2.5 minutes, the anti-masking algorithm will trigger the Mask relay and the red alarm LED will flash every second to signal that the sensor has been masked. After the object is removed, the Mask relay and the red LED will return to normal.

SENSOR INITIALIZATION

Following power-on, a SX-915AM sensor is fully operational after a one-minute warm-up. During warm-up, its red alarm LED is ON.

WALK TEST:(RED LED)

Note: The SX-915AM should be tested once per year.

In Normal Operating Mode: Enable the LEDs (SW1 ON). If the LEDs are not enabled, then, without removing power, set SW1 to ON. Walk across the monitored area (within the sensor's optical fields-of-view). With sensitivity set at LOW, the red alarm LED should turn ON (for Alarm) after about three to five normal steps. With the sensitivity set at HIGH, the LED should turn ON (for Alarm) after about two to four normal steps. Often, before the red LED turns ON, one of the single-system LEDs will turn ON. Each time the red LED turns ON, wait for it to turn OFF. Then, wait 12 seconds before continuing the walk-test. When there is no motion in the monitored area, the LED should remain OFF.

In Test Mode: Cycle power-off/power-on, then Walk-test immediately after warm-up in the 10-minute walk-test mode.

ALARM PROCESSING

A PIR motion sensor works by counting signal events, often called "pulses". The SX-915AM's PIR system includes SureSpot™ to provide expert qualification of true intruder-caused pulses. However, the SX-915AM dual-technology processing system does not simply count pulses. Instead, SUREN-proprietary processing includes expert algorithms for real-time analysis of the combined PIR and microwave signals. This provides the best intruder detection while rejecting false alarms.

SUPERVISION

SX-915AM supervision functions include these tests:

Low voltage detection (<8VDC).
PIR self test okay.

When a failure is detected, then:

1) The red alarm LED blinks ON/OFF every second;

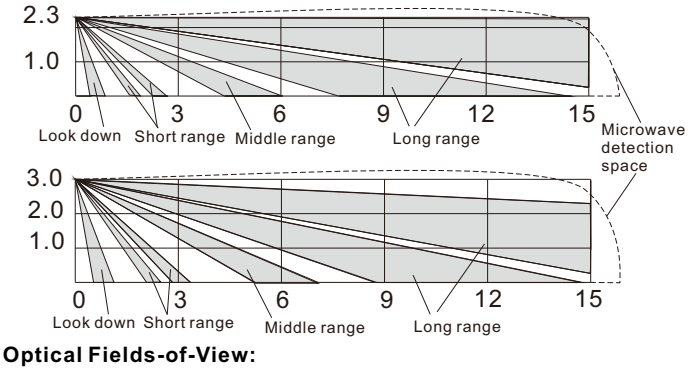
2) Alarm relay does not re-close after an alarm signal event.

NOTE: The sensor will NOT initiate an alarm upon failure.

SPECIFICATIONS

Range: 15 meters

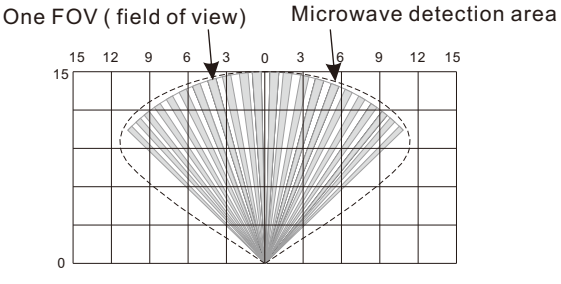
Sensor Optical View Pattern (side view, in meters)



Optical Fields-of-View:

Long-range	Mid-range	Short-range	Look-down
44	12	6	4

Sensor Optical View Pattern (top view, in meters)



IR Sensor:
Infrared Digital Motion Detector

Power Supply:
8-16 Vdc; 20 mA at 12 Vdc

Alarm Relay:
Solid state, Form A(NC), 60V, 50mA, 1500 V_{rms} isolation

Tamper Switch:
Form A (NC). 50 mA at 30 Vdc

Mask Relay:
Solid state, Form A(NC), 60V, 50 mA, 1500 V_{rms} isolation

Housing Material:
High-impact ABS

Dimensions:
112 x 50 x 42 mm (H x W x D)

Approvals/qualification:

CCC

Microwave Operating Freq:
Approx. 10 GHz. See unit label.

Events Detection:
SureSpot™ processing engine

RF Immunity:
20 V/m, 10-1000 MHz;
10 V/m, 1-2 GHz

White Light Immunity:
6500 lux

Sensitivity: PIR
Selectable: 2-event or 3-event

Range: Microwave
20%-100% adjustable

Operating Temperature Range:
-10°C to +55° C (+14°F to +131°F)

Storage:
-40°C to +60° C (-40°F to +140°F)

Accessories:
Mounting bracket:
MB-100

Note: Specifications are subject to change without notice.

Limitations of Security Products: Security products and alarm systems do not offer guaranteed protection against burglary, fire, or other emergencies. They may fail to warn for diverse reasons, including (but not limited to): power failure, dead batteries, improper installation, coverage "blind spots", coverage areas overlooked during installation, defeat by technically sophisticated intruders, component failure, or inadequate maintenance. Alarm systems should be checked weekly to ensure that all devices are working properly. AN ALARM SYSTEM IS NOT A SUBSTITUTE FOR INSURANCE.

SUREN LIMITED WARRANTY

SUREN Systems, Ltd., of Fo Tan, Shatin, Hong Kong, warrants its products to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for twelve months from the date of original purchase. Seller's obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labor, any part which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Seller. For warranty service, return transportation prepaid, to SUREN Systems, Ltd., Unit 15, 12/F, Block B, Wah Sang Industrial Building, 14-18 Wong Chuk Yeung Street, Fo Tan, Shatin, Hong Kong. Seller has no obligation to attend the buyer's location to retrieve the goods or make repairs on site.

There are no warranties, expressed or implied, of merchantability, or fitness for a particular purpose or otherwise, which extend beyond the description on the face hereof. In no case shall seller be liable to anyone for any consequential or incidental damages for breach of this or any other warranty, express or implied, or upon any other basis of liability whatsoever, even if the loss or damage is caused by its own negligence or fault.

Seller does not represent that the products it sells may not be compromised or circumvented; that the products will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; or that the products will in all cases provide adequate warning or protection. Customer understands that a properly installed and maintained alarm system may only reduce the risk of a burglary, robbery, or fire without warning, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss as a result.

Consequently, seller shall have no liability for any personal injury; property damage or other loss based on a claim the product failed to give any warning. However, if seller is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, seller's maximum liability shall not in any case exceed the purchase price of the product, which shall be the complete and exclusive remedy against seller.

This warranty replaces any previous warranties and is the only warranty made by Seller on this product. No increase or alteration, written or verbal, of the obligations of this Limited Warranty is authorized.

Patents US: 7,141,910; 7,042,134; China: ZL 2005 3 0146970. 4, Patents UK: GB 2, 427, 270, Other Patents issued and pending worldwide.

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SUREN Part no.: 0-ML00-0069-01-1 Rev.5

SX-915AM Installation Instructions

1: Mounting Location

A. Wall mounting:

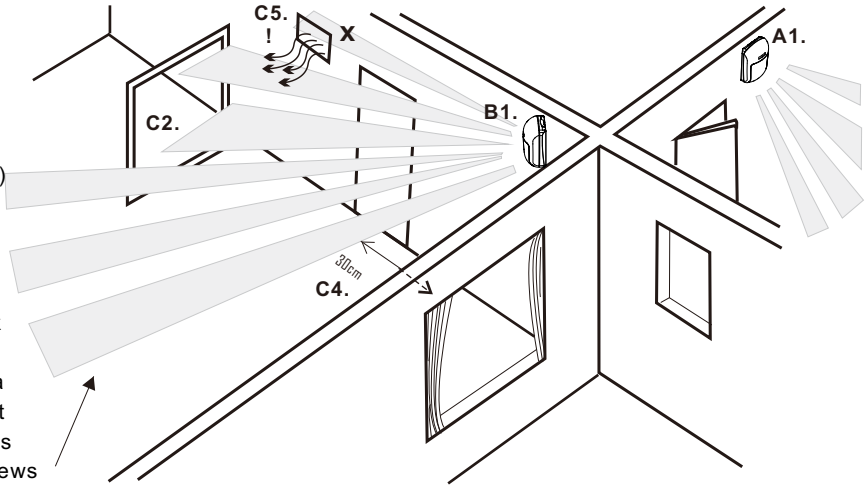
1. Sensor base fastened flat on vertical wall (± 2 degrees)

B. Bracket mounting:

1. Bracket fastened to semi-vertical surface (± 15 degrees)
2. Sensor on bracket in vertical position (± 2 degrees)

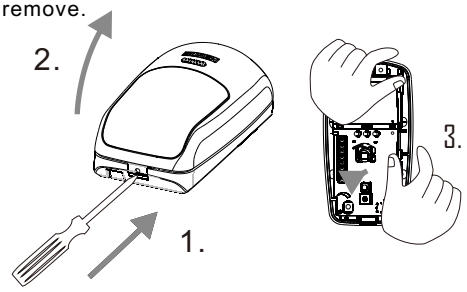
C. All mounting:

1. Height = 2.3 m or 3m above floor of monitored area
2. Clear line-of-sight from sensor to monitored area
   Note: glass will block PIR sensor's view; metal will block microwave sensor's view
3. Wall temperature similar to walls/floor of monitored area
4. Sensor aimed away from windows and reflected sunlight
5. Sensor aimed away from heaters or heater/cooler outlets
6. Sensor aimed so that likely intruder paths cross three views



2: Sensor Disassembly

In slot at sensor bottom, use screwdriver or thumbnail to (1.) Push inward on cover latch. (2.) Remove cover.(3.) Push outward on circuit board latch at sensor base right side. Using circuit board terminal block as handle,gently lift circuit board right side and remove.

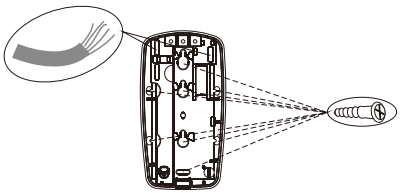


3: Base Hole Preparation

Identify necessary holes on diagram;

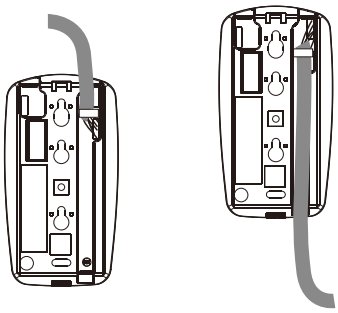
1. For wall mounting,knock out hole covers.
2. For corner or 45 degree wall mounting, use drill to open at least two holes at base side depressions.
3. For bracket mounting. See 6 for more.

If cable ties will be added for wire strain relief, select holes needed, then clear out thin plastic material covering those holes.



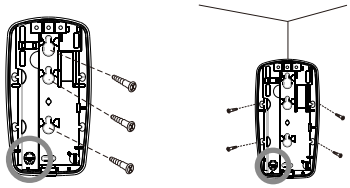
4: Cable Preparation

Remove 8 cm of cable jacket. Pass the cable wires through the selected hole. Lay cable in wire channel. Secure cable with cable tie.



5: Wall Mounting

Use screws to mount on wall or in corner.



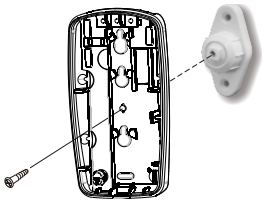
Set circuit board alignment post in position "0"or "1" to select mounting height.

Alignment Post position "0"
Use with:
Wide-angle lens.

Alignment Post position "1"
Use with:
Wide-angle lens

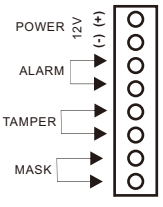
6: Bracket Mounting

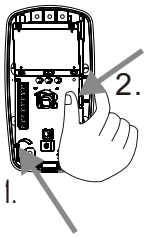
Use screws to mount bracket in desired location, use tool to open a 3 mm hole in the center of the square recess at the rear of the base. Use screw to mount sensor base onto bracket. Refer to 5 for setting circuit board alignment post.



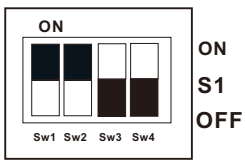
7: Circuit Board Installation

To replace circuit board, (1.) place circuit board left edge into two left-hand mounting slots in sensor base. (2.) On right-hand side, gently press circuit board into place until latch snaps over circuit board.Cut cable wires to appropriate length and connect wires/EOL resistor to sensor terminal block.





8: DIP Switch Setting(S1)



Sw1:LEDs operation
On:LEDs Enabled
Off:LEDs Disabled

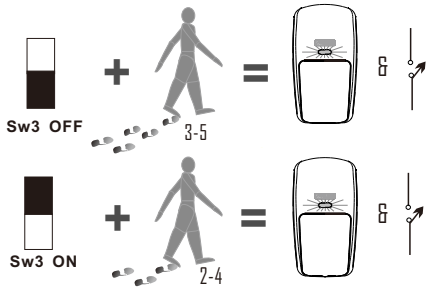
Sw2:Alarm condition
On: PIR+MW
Off: PIR

Sw3:PIR Sensitivity
On: High
Off: Low

Sw4:Anti Mask
On: Enabled
Off: Disabled

9: PIR Motion Sensitivity; Microwave Range

With Low sensitivity, PIR detection occurs in 3 to 5 steps. With high sensitivity, detection occurs in 2 to 4 steps.



Adjust RV1 clockwise to increase microwave detection range.

RV1

10: LED Indicator Operation

The chart below shows possible LED indications.

LED	SX-915AM	
	Sensor State	**LED Display**
Red	Warm-up	ON
	Alarm	ON 5 Sesonds (IF LED ENABLED)
	Failure	Flashing
	Normal	OFF
Yellow	MW Event	ON
	NO Event	OFF
Green	PIR Event	ON
	NO Event	OFF