

# Temperature Sensor

Model TS-101A

## 1. INTRODUCTION

The Temperature Sensor is designed to monitor the temperature of a specific area, whether that is the indoor temperature or outdoor temperature. It works in conjunction with the AAA+™ Control Panel, as well as other Skylink's alarm system such as SC-001 or AD-433S etc. When the actual temperature exceeds the preset limit, the control panel will either alert you or alarm will be triggered.

In this package, you should find the temperature sensor, 2 lithium batteries, an external measuring probe for measuring outdoor temperature and mounting accessories.



Please follow the instructions below to set up the temperature sensor.

## 2. PROGRAMMING

There are several things you need to program:

- 1) Clock
- 2) Upper temperature limit
- 3) Lower temperature limit
- 4) Set the temperature unit (Fahrenheit / Celsius)
- 5) Compatibility jumper (J2)

### Clock

The current time will be displayed when the "HOUR" or "MIN" button is pressed.

To set the hour:

1. Press and hold the "HOUR" button.
2. While holding on to the "HOUR" button, press "UP" or "DOWN" to select the hour.
3. Release all buttons after setting the hour.

To set the minute:

1. Press and hold the "MIN" button.
2. While holding on to the "MIN" button, press "UP" or "DOWN" to select the minute.
3. Release all buttons after setting the minute.

### Upper Temperature Limit

When the actual temperature is above the upper temperature limit, the temperature sensor will send a signal to the control panel.

To set the upper temperature limit:

1. Press and hold the "HI" button.
2. While holding on to the "HI" button, press "UP" or "DOWN" to select the upper temperature limit.
3. Release all buttons after setting the upper temperature limit.

### Lower Temperature Limit

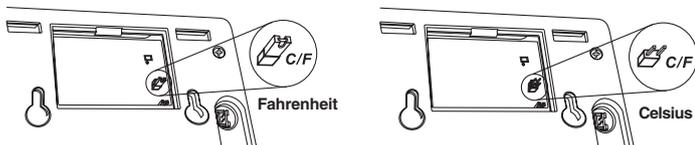
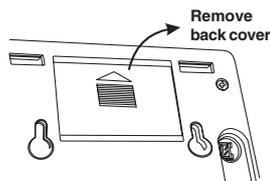
When the actual temperature is below the lower temperature limit, the temperature sensor will send a signal to the control panel.

To set the lower temperature limit:

1. Press and hold the "LO" button.
2. While holding on to the "LO" button, press "UP" or "DOWN" to select the lower temperature limit.
3. Release all buttons after setting the lower temperature limit.

### Set the temperature unit (Fahrenheit / Celsius)

The temperature sensor can operate and display temperature in Fahrenheit or Celsius. To select the desire unit, open the back cover you will see a jumper connector for "C/F" as shown below. To select Fahrenheit, place a jumper on this "C/F" connector. To select Celsius, remove the jumper from this connector.

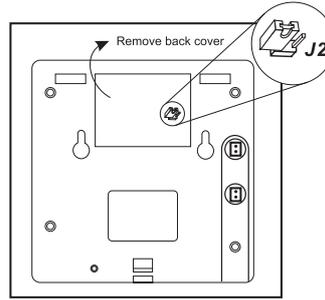


Note: The temperature sensor can monitor the temperature within this range: 157°F (69°C) to -3°F(-19°C).

## 2. PROGRAMMING (CONT)

### Compatibility Jumper

Refer to the following table to setup the sensor to work with different Skylink's Security System or Emergency Dialer. To select, open the back cover you will see a jumper connector for "J2" as shown below. Use a paper clip to remove the jumper connector.



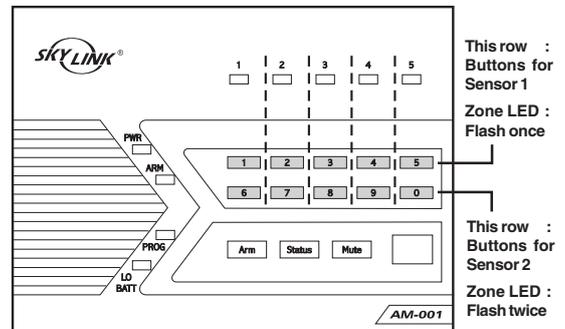
Models	Jumper J2 setting
AM-001, ML-001, AD-105	 Keep the connector in default post
SC-001, AA-433, AD-433S, MS-2001, ED-100	 Reposition connector to 2 posts

You have now programmed the temperature sensor and you can mount the sensor to the desired location.

## 3. LEARN SENSOR TO AAA+™ CONTROL PANEL

In order for the sensor to communicate with the control panel properly, the sensor must be programmed to the control panel. Follow the brief instructions below or refer to the detail instructions from the AAA+™ User's Instructions to program the sensor to the control panel. Before proceeding, please remove the battery isolator from the sensor.

Step	Keys	Function	Description	Note
1	[PROG] [MPIN]	Enter Programming mode	Enter master password to programming mode	3 beeps for valid password. 1 long beep for invalid password.
2	[3]	Select learn sensor programming		After [3] is entered, some zone LEDs will flash once, or twice, some will be off. The zone LEDs represent whether that zone is already occupied by another sensor. **See Table A below.
3	[0] to [9]	Select sensor location	Refer to the diagram below to select the sensor location, which includes the zone and sensor number.	After you have selected the zone, that zone LED will be on.
4	Activate the sensor by pressing the red "Panic" button on the temperature sensor.	Activate sensor	Once the sensor is activated, the signal will be transmitted to the Control Panel which will be stored.	You will hear [Zone X Sensor Y Accepted], where X and Y are the zone and sensor numbers you have selected.



	SENSOR 1	SENSOR 2
Zone 1	Button [1]	Button [6]
Zone 2	Button [2]	Button [7]
Zone 3	Button [3]	Button [8]
Zone 4	Button [4]	Button [9]
Zone 5	Button [5]	Button [0]

Note:  
Each location is allowed to learn one sensor only. Learning a sensor to a location will clear the memory of the sensor previously learnt.

### 3. LEARN SENSOR TO AAA+™ CONTROL PANEL (CONT)

ZONE LED	DESCRIPTION
Off	Zone is not occupied by any sensor
Flashes once	This zone is occupied by sensor 1.
Flashes twice	This zone is occupied by sensor 2.
Flashes once, then twice	This zone is occupied by sensors 1 and 2.

\*\* Table A: Zone LED status for learning sensors.

### 4. LEARN SENSOR TO SC-001, AA-433 AND AD-433S

To program the temperature sensor to other Skylink's receivers, such as SC-001, AA-433, AD-433S etc, please follow the instructions below:

- 1) Activate the programming mode of your Skylink's receiver (refer to the owner's instructions of your Skylink's receiver)
- 2) To transmit the signal from the temperature sensor, press the red button on the temperature sensor. The red button is for programming purpose only.
- 3) Follow the rest of the instructions from the Skylink's receiver to complete the programming procedure.

### 5. INSTALLATION

The temperature sensor should be mounted onto the wall by 2 screws. Follow the procedures below:

1. Use a template to mark the location for the 2 screws correctly.
2. Tighten the screws onto the wall half way.
3. Hang the temperature sensor onto the 2 screws.

*Note: The temperature sensor is not designed to be used outdoor, it must be installed indoor. To monitor outdoor temperature, an external measuring probe can be used, while the temperature sensor is installed indoor.*

### 6. OPERATION

The temperature sensor must be enabled in order to monitor the temperature and communicate with the control panel. You may enable the upper temperature limit only, or lower temperature limit only, or both.

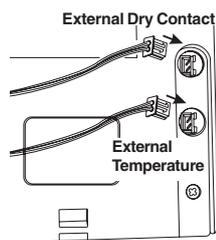
To enable the upper or lower temperature limit, simply press "HI" or "LO". If the display shows "HI", that means the upper temperature limit is enabled. If the display shows "LO", that means the lower temperature limit is enabled. If the display shows both "HI" and "LO", that means both upper and lower temperature limits are enabled. To disable the temperature limits, simply press the same button again, until the "HI" or "LO" doesn't show up on the display.

#### External Temperature

If you would like to monitor the external temperature (i.e. outdoor temperature), you may use the external measuring probe. Plug in the external testing probe as show on the back of the sensor. Ensure to select the "EXT" on the front panel. If no external measuring probe is plugged in, but "EXT" is selected, the display will not show any temperature.

#### External Dry Contact (Normal Open)

You may connect the temperature sensor to other devices by the N/O dry contact. Simply plug in the cable into the socket on the back of the sensor as shown. Connect the other end of the cable to the device that you would like to connect to. When the temperature is above or below the preset limits, the contact will be closed momentary therefore activating the connected device.



The maximum ratings of the N/O relay contact is 2A / 24V DC, therefore do not connect an external device which exceeds this rating. The relay contact is not designed for AC connection, DO NOT CONNECT AC DEVICE TO THIS N/O CONTACT.

### 7. SENSOR FAILURE OR LOW BATTERY

#### Sensor Failure - (Only available for AAA+™)

The control panel constantly monitors its sensors, if the control panel fails to communicate with any sensors, it will notify the user by:

1. The zone LED of the failed sensor will be on steadily;
2. Voice announcement "zone X sensor Y failure" will be played.

When sensor failure occurs, try the following:

1. Check if the sensor is located at where it should be, and whether there is any physical damage to the sensor.
2. If the failed sensor is not physically damaged, try to activate the sensor and see if the control panel reacts to such activation.
3. If not, try to remove the sensor from its location, and bring it closer to control panel and activate the sensor. It is possible that the sensor is installed too far from the control panel and it cannot establish a steady communication with the control panel. If this is the case, please install the sensor closer to the control panel.

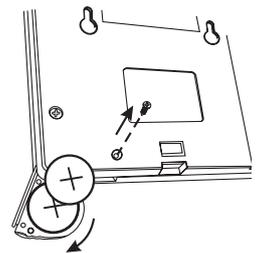
### 7. SENSOR FAILURE OR LOW BATTERY (CONT)

#### Sensor Low Battery - (Only available for AAA+™)

Two CR-2032 lithium batteries are used to operate the temperature sensor. When the sensor is in low battery condition, the low battery LED indicator will flash. Temperature sensor will also send a wireless low battery signal to the AAA+™ Control Panel.

When you see the low battery indication, replace the batteries following the procedures below:

- 1) Remove the screw on the back of the temperature sensor as shown.
- 2) Rotate the battery compartment, the batteries can be removed.
- 3) Place the new batteries into the compartment, pay attention on the polarity, as indicated on the diagram.
- 4) Tighten the screw.



### 8. FCC

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:

Changes or modifications to this unit not expressly approved by the party responsible for compliance 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.

### 9. CE

#### Declaration of Conformity

This equipment conforms to the essential requirement of the Directive (1999/5/EC) of the European Parliament and of the Council.

### 10. WARRANTY

If, within one year from date of purchase, this product should become defective (except battery), due to faulty workmanship or materials, it will be repaired or replaced, without charge. Proof of purchase and a Return Authorization are required.

### 11. CUSTOMER SERVICE

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#### CUSTOMER SERVICE

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